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24 July 1985

Worldwide Report

NUCLEAR DEVELOPMENT
AND
PROLIFERATION

FBIS

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24 July 1985

WORLDWIDE REPORT NUCLEAR DEVELOPMENT AND PROLIFERATION

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24 July 1985

AUSTRALIA

FEDERAL-STATE TALKS ON NUCLEAR MATERIAL SECURITY

Sydney THE SYDNEY MORNING HERALD in English 24 May 85 p 11

[Text]

The Federal Government is to consult the States on measures to protect nuclear material and facilities from theft or sabotage by terrorists and other sub-national or foreign organisations.

The Prime Minister told Parliament yesterday that the consultations would be held with a view to early ratification of the Convention on the Physical Protection of Nuclear Material, recommended by the Australian Science and Technology Council (ASTEC) in May last year.

He said the Government would also seek to introduce legislation for domestic physical protection of nuclear material.

Mr Hawke was tabling the Government's response to the report of the Inquiry into Australia's Role in the Nuclear Fuel Cycle, headed by the ASTEC chairman, Professor Ralph Slatyer.

Professor Slatyer noted in the report that apart from preventing theft or sabotage, physical protection could be regarded as one of the measures which reduced the risk of nuclear proliferation.

"The physical protection measures for yellowcake (uranium oxide) are similar to those which apply to any valuable cargo. For more sensitive nuclear material, the measures become increasingly stringent depending on its strategic significance," he said.

He also noted that Australia, although it had signed, had not yet

become a party to the Convention on the Physical Protection of Nuclear Material.

"We are also concerned that Australia has not yet incorporated the International Atomic Energy Agency (IAEA) levels of physical protection into domestic regulations.

"This would not only supplement the effect of the convention, but would add to the enforceability of the physical protection measures applied to nuclear material in Australia."

In accordance with other recommendations, Mr Hawke said the Government would move quickly to ratify the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter in consultation with the States.

He said the Government also supported a moratorium on the ocean dumping of radioactive waste and would "vigorously oppose it".

The only recommendations rejected by the Government were those relating to uranium mining and the establishment of uranium enrichment facilities in Australia.

Mr Hawke confirmed that the mining and export of uranium would continue, subject to strict safeguard conditions, but only from the Nabarlek, Ranger and Roxby Downs mines.

The Government had also decided that the development of further stages of the nuclear fuel cycle in Australia would not be permitted, he said.

AUSTRALIA

CANBERRA REJECTS SCIENTISTS' CALL FOR URANIUM BOOST

Melbourne THE AGE in English 24 May 85 p 3

[Article by Peter Gill]

[Text]

CANBERRA.— The Federal Government has rejected recommendations that Australia expand uranium mining and get involved in advanced nuclear fuel processing.

The Prime Minister, Mr Hawke, yesterday held the Government strongly to ALP policy in rejecting two of the recommendations of the Australian Science and Technology Council. The Government commissioned a report from the council in 1983 and its findings were published last year.

The Government endorsed the remaining 23 council recommendations, many of which were directed to increasing Australia's role in disarmament and improving safeguards for uranium use.

Mr Hawke echoed some of the sentiments of the council in a statement to Parliament yesterday but did not use those sentiments to depart from the ALP policy of allowing uranium mining only from the existing Nabarlek and Ranger mines and the proposed development in South Australia of Roxby Downs.

Mr Hawke said: "The Government believes that Australia can make the most responsible possible contribution to the reduction of the risks and hazards associated with the use of nuclear materials and technologies by continuing to permit, in a strictly regulated manner, the mining and export of uranium, subject to the most stringent nuclear non-proliferation conditions."

But he added that uranium mining would continue to be confined to the existing mines and proposed Roxby Downs development.

The council argued that Australia's role in the cause of non-proliferation and world peace would best be served by an active role in the nuclear fuel cycle. It said increased mining and a role in enrichment and reprocessing of uranium would give Australia greater influence in international forums.

"Without such involvement we consider that global energy security would be less assured and our ability to strengthen the non-proliferation regime and to influence future developments in the fuel cycle would be reduced," it said.

Rejecting Australia's participation in advanced processing of uranium, Mr Hawke said: "The Government recognises the general argument that participation in appropriate ways in some stages of the nuclear fuel cycle could have non-proliferation advantages, but would need to have convincing evidence in any specific case before any consideration could be given to reviewing its position."

The Opposition spokesman on resources and energy, Senator Durack, labelled Mr Hawke's response as "predictably doctrinaire".

"The Government requested the report from ASTEC but has rejected key recommendations from this independent study simply because they differ from the dis-

torted view of the subject that masquerades as Government policy," Senator Durack said.

"The response represents a further disservice by this Government to Australia's role in the international community, and abandons any opportunity to influence vital questions such as the non-proliferation regime and global energy security," he said.

Among the council recommendations accepted by the Government were that Australia:

- Continue to participate in negotiations for non-proliferation, arms control and a nuclear-free South Pacific.
- Ratify international conventions on storage and transport of nuclear materials.
- Maintain and enhance Australian influence in the International Atomic Energy Agency.
- Conclude agreements with countries through which Australian uranium passes on the way to a customer for the uranium's physical protection.
- Continue to encourage research and development of the SYNROC waste-disposal method.

CSO: 5100/4314

AUSTRALIA

BRIEFS

EGYPT MAY GET URANIUM--A federal cabinet committee has approved a nuclear safeguards agreement, which could [allow] uranium being sold to Egypt within 2 years. Approval to the agreement was given on Tuesday by federal cabinet's Internal Affairs and Defense Committee and is now waiting formal endorsement from the cabinet. The proposed agreement carried strict supply provision, which included stipulations that should Egypt fire one nuclear device, all uranium bought from Australia it to be returned. The bilateral safeguards agreement was proposed by Egypt in May 1981, approved by the Liberal government of the time, but suspended when the Labor government was elected in 1983. Australia already has bilateral agreements of this kind with 10 other countries. [Text] [Melbourne Overseas Service in English 1230 GMT 27 Jun 85 BK]

CSO: 5100/4313

BULGARIA

ASSEMBLY WORK ON 1000 MW REACTOR BEGINS

Sofia TEKHNICHESKO DELO in Bulgarian 20 Apr 85 p 2

[Article by Tsvetana Evgenieva: "The 1,000 MW Reactor Is Being Installed"]

[Text] The date 11 April 1985 will remain memorable in the history of Bulgarian nuclear power engineering. On this date, at the site of the fifth power unit of the Kozloduy nuclear power plant, installation began on the first 1,000 MW reactor outside the Soviet Union. The reactor was built at the Izhorsk Plant in Leningrad.

The reactor's body, which weighs 320 tons, was lifted to the 20.20 meter level with the aid of the Demag crane and put in its appropriate place in the shaft. The preliminary preparatory work and the installation of the reactor and the main circulatory body were assigned to the well known power engineers from the brigade of Gospodin Yordanov, twice hero of socialist labor. This is the fifth reactor that has been assembled and installed by this brigade during its 14 years of work at the nuclear power plant. All of this is being carried under the immediate supervision and with the help of Soviet specialists.

"This is a very responsible operation which opens up a front for our responsible work in the future," said engineer P'otr Danilenko, leader of the Soviet fitters at the reactor section. "Everything here is unique."

We are not familiar in practice with the construction methods or the installation. The latest technical innovations in the area of construction are being implemented here. The following will be used: the mighty Demag universal crane; highly productive mechanization; large metal constructions; and factory-finished block frames for mass installation.

The reactor itself is different from its 440 MW "brothers". It is the latest generator of the VVER type. It has three times more heating capacity, a specific water-chemical schedule, an improved control system, and great reliability.

After starting the fifth power unit in operation in 1986, almost one-half of the power generated in Bulgaria will come from nuclear power.

BULGARIA

REACTOR AT KOZLODUY NUCLEAR STATION RELOADED

Sofia RUDNICHAR in Bulgarian 9 May 85 p 2

[Article by Petya Ivanova: "A Difficult Front at the Kozloduy Nuclear Power Unit"]

[Text] The 10.5 meter level. The fresh fuel core at the 3rd power block of the Kozloduy Nuclear Power Unit; this is where recharging the reactor with nuclear fuel takes place.

The time is 2:00 pm. The end of the working day for the D shift is approaching, with engineer Mitko Yanev on duty. Fatigue creeps onto people's faces, yet they are on their toes. Even during the first day of the repair campaign, at an open party meeting, they gave their word to finish the main repair of the unit's power equipment ahead of time, and with high quality. They promised, in order to honor the Thirteenth Congress of the Bulgarian Communist Party, to set a record for producing electric power: 13 billion kWh by the end of this year.

I had a conversation with Emil Barbov, chief of the dosimetric shift.

"The task of those who carry out the dosimetry is to control the radiation. The daily dose of radiation exposure is 20 rads per milligram. That is why each brigade is allowed to work there only with the permission of the person responsible for dosimetry."

Deyan Stoyanov, recharging machine operator, works carefully with this intricate equipment.

"The task of this recharging procedure is almost over," explained senior engineer operator Valentin Ribarski, whose working day is devoted to controlling nuclear safety while the shifts complete their assignments.

"Deck," "box," these are the words used by my guide for this zone, Svetlana Gledacheva, to introduce me to the terminology at the 2.7 meter level. We found the brigades of Kostadin Tachev and Stefan Nedkov from Ventilation Systems, in the process of working at the Main Circulation Pumps sector. The people working at the main outlet of the second circulation pump, Vasil Nikolov and Dimitur Andreev, who are in charge of the shifts for each brigade are

tightening the bolts at the main outlet of the second circulation pump. I wait until the noise from the pneumatic wrenches stops, so that I can hear the words of the Soviet engineer, Ivan Skorodomov.

"Our task is to assist in completing the repairs in a timely manner and with high quality. The conscientious work of every participant in the repair activities is a guarantee of this."

The efforts of the steam generator brigade, led by Khristo Khristov, are aimed in this direction as well. Everyone in it recognizes the handiwork of their best colleagues: Georgi Borisov, Venko Tokov, Rostoslav Tsvetkov, Valentin Borisov, Emil Stanev, and others.

For many people, the unity of youth and quality is not comprehensive. Thus Komsomol member Marian Spasov explains:

"The repair of power equipment is a difficult front where we young people can test our mastery and discipline, in order to defend ourselves as good workers."

Those are not just words, but a healthy basis for the struggle already begun for high quality on the basic repairs of the power blocks at the Kozloduy Nuclear Power Unit. Only 18 days were needed to carry out the repairs and the refueling of the third power block, as a result of which an additional 100 million kWh of electric energy will be produced.

12334

CSO: 5100/3029

ARGENTINA

ENACE DIRECTOR DISCUSSES MAJOR NUCLEAR CHALLENGES

Buenos Aires CLARIN in Spanish 31 May 85 p 18

[Interview with Carlos Rinaldi of ENACE]

[Text] Improving nuclear power plant technology and avoiding the paralysis caused by delays occurring in the projects which have already been started are "the major challenge of the present time," said the engineer Carlos Rinaldi, director of industrial promotion at ENACE [National Electric Power Plants Enterprise].

He said that a 1-year halt in the work on Atucha II would mean "unproductive costs of \$100 million." He also revealed that the delay which has already occurred is more than the 36 months officially indicated, with the consequent increment in the project's final cost. He felt that while the funds available are limited, for ENACE--of which 75 percent is held by the CNEA [National Atomic Energy Commission] and 25 percent by the German firm, KWU--the principal difficulty is rooted in the irregularity and cash flow shortages occasioned by the department of finance. "If the budget is approved at the end of the year, for accounting purposes that's fine," he noted, "but in the meantime the damage to the nuclear sector has already been done, because the funds did not come through when they were needed."

Continuity

[Question] In view of the growing budget limitations, what is the future of the plan to build three nuclear power plants in addition to Atucha II?

[Answer] These three plants to be built after Atucha II would not have the power originally scheduled, 600 MW each. Now there is a plan to build three units of 300 MW. The important thing is that, even though their power will be less, they can still provide continuity in the work orders placed with Argentine companies, so these companies and their skilled personnel will be able to survive. In addition, electricity demand in Argentina has been cut because of the recession. As it is less than what had previously been estimated, this type of planning should be perfectly suited to the present situation.

[Question] Last year, because of the decline in electricity consumption, the Atucha and Embalse plants operated below capacity. Wouldn't this seem to indicate the need for a more drastic revision in the construction schedule for these plants?

[Answer] Not at all. What we have to do is get production moving again. That will certainly increase electricity demand. Still, it is true that both plants did operate below capacity; what we have to do is decide whether it might be better to take our conventional thermal plants out of service, rather than the nuclear plants.

Now we have to maintain both the technology and the companies that work in the nuclear sector, for when our hydroelectric resources are depleted--which is expected to happen within 25 years--we will have to rely on our nuclear plants.

Integration

[Question] How well integrated is the nuclear industry?

[Answer] Argentina occupies a good position in the world since it has mastered the entire fuel cycle, from extracting and preparing uranium ore through the manufacture of the fuel element, including enrichment, reprocessing, and obtaining heavy water. Argentina can also provide basic and detailed engineering and manufacture components for a plant--such as heat exchangers, nuclear valves and steam generators, all of which are critical parts.

The majority of the 200 companies that make up the profile of this industry are developing in tandem with the nuclear plan and as suppliers, have acquired a first-class international level. This has a multiplying effect on other areas, because of the quality demanded. For that reason, these companies--which are handling 50 percent of the total investment in Atucha II--are seen as strong competitors in the world market. This explains to a great extent the campaign being waged by the nuclear powers. There should be no doubt at all that behind this offensive--in which Argentina is being accused of nuclear developments for other than peaceful purposes--there can be found commercial interests, and not the fear of our goals, which are very clear.

[Question] How, specifically, is this external pressure to which you are alluding applied?

[Answer] In a project to build a plant in Egypt the participation of Argentine companies was vetoed. They were bidding as suppliers in association with another foreign firm, and the argument put forward was that Argentina did not sign the Non-Proliferation Treaty.

7679

CSO: 5100/2129

ARGENTINA

CNEA WANTS DECISION ON ATUCHA II NUCLEAR PLANT

Fund or Stop Project

PY060521 Buenos Aires NOTICIAS ARGENTINAS in Spanish 1425 GMT 4 Jul 85

[Text] Buenos Aires, 4 Jul (NA) -- Government sources have reported that the National Atomic Energy Commission [CNEA] has submitted to Finance Secretary Mario Brodersohn a number of financial studies which essentially propose to "justify the works of the Atucha II nuclear plant, that is, to supply the necessary funds to finish it, or to stop it by abrogating the contracts." The CNEA has based its demand on the fact that with the current pace of construction -- the project is already 3 years behind schedule -- the resources "vanish into unproductive expenditures because from every 100 pesos invested, only 15 are spent on the physical construction of the project."

The pace of the construction of the third Argentine nuclear plant will be discussed tomorrow at 1100 by President Raul Alfonsin, CNEA Chairman Alberto Costantini, and the executive vice president of the Kraft Werk Union [KWU], the company building Atucha II, at a meeting to be held at Government Palace. The KWU, subsidiary of the German firm Siemens, is reportedly willing to expand to \$300 million a line of credit for the components of Atucha II, that is, for generators, compressors, pumps, and other equipment, some of which is imported from the FRG.

Government sources consulted by NOTICIAS ARGENTINAS have stated that Argentina "will possibly" accept a proposal in this regard, but rejected the possibility that the KWU could be entrusted with the construction and later exploitation of Atucha II. The KWU credit to finance the components of the nuclear plant will reportedly be repaid in a maximum period of 15 years. The government sources have explained that so far the German proposal has not been officially presented to the CNEA. The construction of this type of plant requires several types of engineering expertise.

Regarding the budget problem, the sources stated that "the final decision will be made by Brodersohn during the next few days," when he finishes studying the technical financial studies submitted by CNEA. The CNEA authorities "are ready to put an end to the agony of the current construction pace, which turns everything into useless expenditures."

The CNEA proposal suggests two essential alternatives: Provide the necessary funds to finish the project "with no useless expenditures" or "stop it by canceling the contracts."

The CNEA original budget for 1985 was \$420 million. The Atucha II project and the Arroyito heavy water plant in Neuquen will reportedly need \$360 million. The remain-

der will be invested in research and development activities of the CNEA. In this regard, Costantini has stated on several occasions that the human resources and the research activities of the CNEA will be preserved.

Alfonsin on Continuing Project

PY062019 Buenos Aires BUENOS AIRES HERALD in English 6 Jul 85 p 9

[Text] NA -- President Raul Alfonsin yesterday ratified the government's intention of continuing with the Argentine nuclear plan and said he would find means to finance the construction of the Atucha II thermo-electric project. This news was given to the press by Alberto Costantini, president of the National Atomic Energy Commission (CNEA) following a meeting with Hans Frewer, vice-president of the West German company Kraft Werk Union, West German ambassador Count Hans Werner Finck von Finckenstein, Siemens Vice-President Herbert Steffen, and other German businessmen. This company has been supplying advanced technology for building Atucha II, a project apparently three years behind schedule.

FRG Firm To Seek Credits

PY082023 Buenos Aires NOTICIAS ARGENTINAS in Spanish 2042 GMT 6 Jul 85

[Text] Buenos Aires, 6 Jul (NA) -- Official sources today announced that the FRG company Kraft Werk Union [KWU] has given its commitment to President Raul Alfonsin that it will negotiate credits with the FRG banking sector to finance the conclusion of the construction of and the purchase of components for the Atucha II nuclear plant, once Argentina is able to renegotiate its foreign debt with the IMF, the international banking sector, and the Paris Club.

The sources consulted by NOTICIAS ARGENTINAS stated that the FRG delegation headed by Herbert Steffen, vice president of Siemens International, which owns the KWU company, was "satisfied" with the guarantees Alfonsin gave them during a meeting on 5 July to discuss the completion of the Atucha II plant and the continuity of the Argentine nuclear plan. They added that Alberto Costantini, chairman of the National Atomic Energy Commission (CNEA), will negotiate on credits in September in Bonn, after attending the annual meeting of the International Atomic Energy Agency governors. The sources noted that the businessmen will negotiate credits for the completion of the civil projects and the purchase of nuclear plant components -- compressors and generators -- and for the renegotiation of debts for the Atucha I and Atucha II plants, which total \$1.8 billion.

The sources added that it is still a CNEA priority that part of the components be manufactured in Argentina to allow "participation by Argentine industry."

They noted that in view of this offer, the CNEA will conduct "a study on the requirements that we may eventually request from the FRG banking sector."

The sources categorically denied that during the meeting with Alfonsin, "there was discussion of the possibility that Atucha II might be exploited by the KWU company, which is in charge of building the nuclear plant." The sources also reported that Costantini and Finance Secretary Mario Brodersohn did not meet as was planned to discuss the CNEA's budget within the context of the new anti-inflation plan. But there were meetings at the technical level attended by members of the two organizations, during which Finance Secretariat officials expressed support "for completion of the construction with no further unproductive expenses." However, the Finance Secretariat requested that

the CNEA "submit a timetable on the progress of the projects and offer guarantees that they will be concluded within this period."

Official sources have noted that "there are many problems with the contracts of private companies working on the Atucha II plant because of delays in payments." They added that both CNEA and Finance Secretariat officials agreed on the need "to evaluate objectively" the situation of the Atucha II plant, which is already experiencing a 3-year delay in its construction program.

CSO: 5100/2137

ARGENTINA

NUCLEAR RESEARCH, DEVELOPMENT GIVEN MAXIMUM PRIORITY

Buenos Aires CLARIN in Spanish 31 May 85 p 19

[Interview with Alberto Costantini, head of the CNEA, by Eleonora Gasman]

[Text] The current financial squeeze and budget difficulties have placed the CNEA [National Atomic Energy Commission]--at the time of celebrating its 35th anniversary--in a difficult dilemma. The agency will either preserve its scientific-technical capital, its human resources, or "the foundation of our national nuclear policy will be destroyed." For this reason, said Alberto Costantini, chairman of the CNEA, "we have granted maximum priority to maintaining continuity in research and development, at the cost of a sacrifice in our other field of activity, our public works program."

In an interview with CLARIN, Costantini noted that "if the flow of funds continues to be limited or irregular, as it has been during the past year, work on the Atucha II plant and the industrial heavy water plant will be paralyzed." He revealed that of the funding allocated for these undertakings, 80 percent has been absorbed by unproductive costs, leaving only 20 percent for physical investments. "We want to develop the nuclear industry and not waste our money on unproductive spending," he emphasized.

Limited Funds

[Question] What has happened during the year that has elapsed since you took over as head of the CNEA?

[Answer] The year has been a time of preserving our human resources. We have managed to keep continuity in training our professionals and we are fully maintaining our staff of scientists, professionals, and technicians. Training of human resources, scientific and technical developments, and radioisotope applications were given priority in our investments. But unfortunately, we were not able to move ahead with the CNEA's public works projects which were affected by the adjustment variable. We have been forced to cut activities at Atucha II and the industrial heavy water plant drastically. The lack of funds, in some cases, and the lack of a budget in others,

not only caused delays in these projects, but also made them more expensive, by generating unproductive costs of all types--lost time and idle inventory, payment of charges for delays in purchasing components, etc. And to this situation, which is bad enough as it is, we have to add the impact of indexing and the interest due for unpaid certificates.

[Question] What is the magnitude of this unproductive spending?

[Answer] Of our funding for construction, 80 percent has been absorbed by unproductive spending, leaving barely 20 percent for actual physical investments. This means that with a budget of \$200 million, we have only \$40 million left for the construction itself. This situation has to be turned around, and we think that if in the 1985 budget we don't have a suitable and regular flow of funding, we will be forced to halt work on Atucha II and the heavy water plant. We have been talking with the minister of the economy about this. But if, on the other hand, we are able to rely on getting real resources, we will do a financial study--and we are going to start with the cash flows, because if I have a budget, but I don't get the money, then I am generating unproductive costs. Then we will renegotiate starting work on these projects again--which today have practically nothing going on at all--based on the resources available.

Priorities

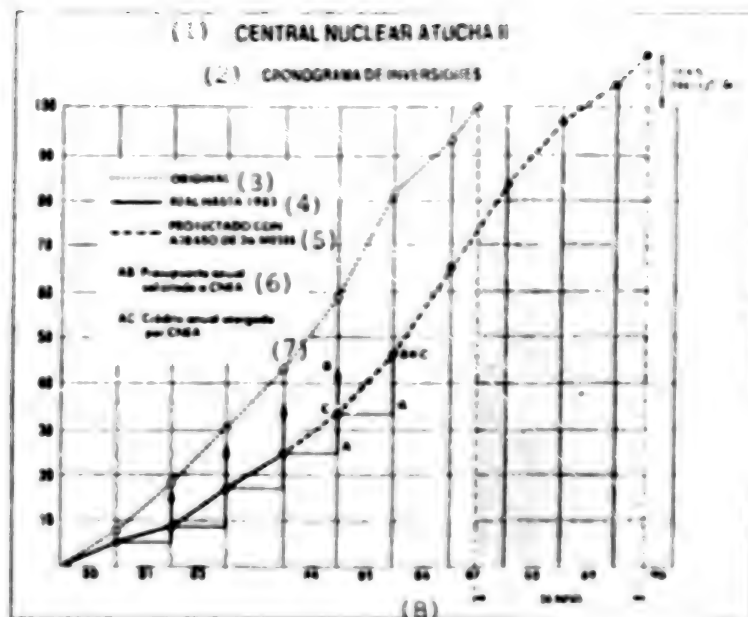
[Question] Some days ago you said that continuity in public works was not one of the commission's priorities. What do you base that position on?

[Answer] For the CNEA, our priorities are human resources and the scientific-technical gains we have made. This is based on two points. In the first place, if I don't preserve human resources, our nuclear policy will be destroyed. For our fundamental capital is the technological and scientific achievements of our people. But on the other hand, a public works project that can't be continued for budgetary reasons doesn't affect the development of our nuclear plan, at least to the same extent.

For this reason, let me say once again that it doesn't make sense for the commission to use research and development as its adjustment variable so that we can solve our energy problems. The reverse is true: we have to save our scientific-technical heritage even at the cost of continuity, even if we have to postpone our energy projects.

[Question] Hasn't the CNEA's involvement in the construction of nuclear power plants probably helped to increase the organization's technological capabilities?

[Answer] Yes, but to a lesser extent. Generally speaking, the projects produce developments in the auxiliary industry, but what generates our technological capabilities is research and development.



This graph shows the extent of the gap between resources requested for continuing work on Atucha II and what was finally allocated

Key:

1. Atucha II Nuclear Power Plant
2. Investment schedule
3. Original
4. Real up to 1983
5. Projected with 36-month delay
6. Annual budget requested of CNEA
7. Annual credit granted by CNEA
8. 36 months

Industrial Development

[Question] Businessmen are saying that our nuclear industry has just started to produce some economic benefits for the nation and to return part of what the state has invested in its development. So they question halting both projects because that would mean cutting off this process.

[Answer] That is the opinion of one particular group. It is logical that as businessmen they would analyze the situation from the point of view of dividends and special interests. The situation is not exactly as they describe it; for example, we have reached an agreement with Algeria to sell the first experimental reactor of wholly Argentine design engineering and technology. And there are also some other industrial developments on hand. This shows that our industry isn't completely paralyzed. It is one thing

to continue work on developments in the industrial field, but it is something quite different, with a budget of barely \$100 million, to try to invest \$1 billion, as we would have to do in Atucha II. Our projects have to make economic sense.

Businessmen are concerned about this shutdown, but what can be said about the destination of the funds? The certificates I see indicate that only 20 percent of our resources are being used for physical investments, while the rest goes for unproductive spending. What I want to do is to develop our nuclear industry, and not our unproductive spending.

[Question] There is talk about making additional cuts in the CNEA's budget. What repercussions will this new reduction have?

[Answer] Let's not forget that we are working with the extension of the 1984 budget, and as a consequence, in what is left of this year we can only invest a very small percentage of the 1985 budget. If we transfer to the second half what could not be used in the first, we have a budget for the next 6 months that exceeds by 5 times the budget for the first half of the year.

[Question] Given this perspective, are you thinking about revising the construction plans for the three plants scheduled to follow Atucha II, up to the year 2000?

[Answer] If we don't finish Atucha II, there won't be much sense in talking about the other plants. Our energy planning doesn't indicate any urgent need for the other plants. Those programmed are three units each of 600 MW. It is now estimated that Argentina will probably need 1,200 MW of electricity from nuclear sources. So it would be enough to build two plants of 600 or four of 300 MW.

Great importance is being given to modular design. Because of the possibilities that are opening up in the developing countries, a plant of 300 MW may be of more interest than one of 600 MW. By the end of the century we could have the technology ready to export plants of this power. In any event, at this time we are not even beginning the feasibility study for the fourth plant, nor has its site yet been chosen.

[Question] What is happening about the construction of mini-plants?

[Answer] The design engineering for a small, compact reactor of 15 MW has begun to be studied. The development has been done, but no work has yet started on the prototype.

[Question] What prospects do cooperation agreements with the developing countries offer?

[Answer] Some intense work is being done in this direction. The agreement we have signed with Algeria has already produced specific results: the supply of an experimental reactor. This shows that a whole new exporting line is opening up for nuclear technology. In the case of China, very cordial talks were held and a cooperation agreement was signed, but there are no expectations for anything specific in the near future.

7679

CSO: 5100/2129

ARGENTINA

CNEA LABOR GROUPS STATE THEIR POSITION ON CRISIS

Buenos Aires LA PRENSA in Spanish 15 May 85 p 8

[Text] Leaders of the various associations representing personnel of the National Atomic Energy Commission [CNEA] released a document yesterday outlining the position of these organizations with respect to the crisis affecting the Commission.

The text of the release was read before a large group of workers and communications media representatives by the head of the CNEA professional employees association, Hector Schilman, during a meeting held in the Commission's auditorium.

Officials of the CNEA technical employees association were also present, as were representatives of the state employees association, the atomic energy workers union and section 586 of the civilian personnel workers union of Argentina.

The Report

The report states that in the 35th year of its existence, CNEA is passing through one of the most difficult moments of its history, due to the accumulation of such matters as the country's economic crisis, international pressures, the vagueness of governmental policy, scheming by some members of parliament and a management which thus far "has looked down upon a free-flowing dialog with the employees which, without amounting to joint management, might well contribute to a resolution of the crisis."

After noting that CNEA had retreated from a situation abounding in possibilities and accomplishments, to a modest program of two nuclear power plants to be constructed in this century, the question arises as to whether the purpose of the agency was to construct the greatest possible number of power plants -- 12 had been planned -- without regard to the actual needs and priorities of the country.

Further along there is reference in the document to the problem posed by the use of the agency's funds and the absence of an established order of priorities in nuclear activity.

On the other hand, it is also pointed out that what is being attempted is to protect the development of nuclear technology, not as an end in itself, but as a powerful instrument for the building of a country sovereign in its decisions, and that an effort is being made to recover the initiative of scientific-technological-fruitful integration which exists within the CNEA.

Short range plan

Along the lines of the foregoing, a short term plan is being put forward, which takes into account in a realistic manner, 12 basic concepts.

The first point mentioned opposes compromising the effort carried on for so many years to assure a growing technological independence and an integrated development, while the second point stresses that in the allocation of the the budget of this agency, adequate consideration be given to investigation, development and research, "the genuine motivating forces of Argentine technological independence."

The third point highlights the importance of providing the profitable activities of the Commission (Atucha I and Embalse power stations, production of radioisotopes, assistance to industry, manufacture of uranium dioxide, etc.) with the necessary funds to permit these operations to continue, and the fourth point asks that the nucleoelectric generating capacity installed be utilized efficiently as base energy, with resultant real savings in funds and fossil fuels.

In the fifth and sixth points it is proposed that differential rates be established for electricity generated by nuclear power plants, and that a decision be made by the Energy Secretary's office as to the actual date for the start up of the Atucha II plant, and that the necessary renegotiation of contracts be initiated.

The two following points, seven and eight, call for the reappraisal of certain development projects (enrichment and reprocessing), emphasizing technological improvement and adequate planning. It also calls for serious study of technical and economic options for placing in service the industrial heavy water plant, as well as the feasibility of ammonia production.

The ninth point recommends studying the feasibility of having certain technical groups of the institution offer their services to industry to the extent that their free time permits, which would lessen the likelihood of the breaking up of such groups. The tenth point recommends maximum encouragement for the exportation of technology, both in the research reactor area, or the production of radioisotopes and in the servicing of power plants as well as in the production of partially processed fuel materials for them.

The two final points suggest that the necessary changes be the result of the participation of the workers through organizational channels established in agreement with the management of the Commission, and that legal instruments be approved by Parliament which define, regulate and give direction to nuclear activity in this country, with an active participation of the sectors concerned.

12383

CSO: 5100/2116

ARGENTINA

BRIEFS

CHAIRMAN DISCUSSES NUCLEAR ENERGY PROGRAM--(NA-DYN)--Alberto Constantini, chairman of the Argentine Atomic Energy Commission (CNEA), yesterday revealed that President Raul Alfonsin has agreed to spread the limited 1985 nuclear programme funds over the full range of CNEA activities rather than limit them to building the Atucha II power station and the Arroyito heavy water plant. Constantini added that keeping the programme's "human resources," i.e., research workers, in the country was a top priority for CNEA. He also said that Alfonsin intended to send a nuclear energy bill governing safety and other aspects to congress during the current sessions. Turning his attention to Atucha II, Constantini said it would need a fixed flow of funds until 1989 if the project's future was not to become uncertain. He described delays in remittance rather than the \$420-million fund ceiling as CNEA's main financial problem. However, he denied there was any crisis. [Buenos Aires BUENOS AIRES HERALD in English 3 Jun 85 p 5]

ALFONSIN ON NUCLEAR FUNDS--San Carlos de Bariloche. An impromptu speech by President Raul Alfonsin lent a political tinge to the luncheon held yesterday at the Atomic Center, when the chief executive said that for the benefit of our nuclear development, "we can not cut off resources to our people so they can not eat, get an education, or receive medical care." The improvised words by the chief of state came in response to the speech by engineer Arturo Bevilacqua who, in a speech given at the luncheon, stated that "we view with concern the difficult situation which our country is going through. While we have inherited a heavy burden, not all improvements depend on economic changes. Some only need political definition to be translated into reality." Alfonsin spoke next and said that "we have said repeatedly that with freedom and a state of law, which are the conditions necessary for democracy, peoples can achieve their destiny. As a result, we have stated, and I will repeat this again, that in a democracy not only do people live, but that in a democracy, people eat, learn, and receive health care." He was then interrupted by applause from those attending the luncheon. [Text] [Buenos Aires CLARIN in Spanish 1 Jun 85 p 13] 7679

CSO: 5100/2129

BRAZIL

REACTION TO FOLHA ARTICLE ON PRODUCTION OF BOMB IN 1990

Politicians Want Discussion

Sao Paulo FOLHA DE SAO PAULO in Portuguese 30 Apr 85 p 25

[Text] While Governor Franco Montoro avoided further comment, declaring that he had not read the report published Sunday in the FOLHA regarding the possibility of Brazil being in a position to explode its atomic bomb in 1990, the subject was much discussed by deputies in the Legislative Assembly, including those of the Brazilian Democratic Movement Party (PMDB), who believe that a matter of such seriousness cannot be hidden from the public. The 2d Army Command as well as the Naval Commission, the navy agency in the state that reportedly would be responsible for the project's funds, refused to speak about the subject.

"Like all of Brazil, Sao Paulo is interested in the development of nuclear energy for peaceful purposes." That was Governor Franco Montoro's reaction on being questioned yesterday about the position of the Sao Paulo government with regard to the nuclear research conducted in the Institute of Energy and Nuclear Research (IPEN) of the University of Sao Paulo (USP), according to a FOLHA report last weekend.

According to Montoro, the state "collaborates in nuclear research because we want atoms for peace." He explained that he had not read the published material and he is going to familiarize himself with the use or nonuse of that research for military purposes and will make a more complete statement on the subject later.

More Discussion

The state deputies expressed themselves in favor of intensive discussion of the development of the project by the IPEN for the construction of a nuclear submarine that could precipitate the construction of the atomic bomb in Brazil. The regional first vice-president of the PMDB, Deputy Valdemar Chubacci, 56, declared that he is going to determine if the report is true. To do so, he plans to talk to Governor Montoro this week. If the report is valid, he said, he believes there should be much discussion of the subject.

While the president of the Legislative Assembly, Luiz Carlos Santos, 51, expressed his opposition to this type of project, Deputy Evandro Mesquita, 44, (PMDB), a member of the Culture, Science and Technology Committee, promised a debate on the

subject the latter part of the year with the presence of Minister of Mines and Energy Aureliano Chaves. The Social Democratic Party (PSD) leader, Deputy Fauze Carlos, said that he is "viscerally opposed to the construction of destructive weapons."

A statement by Deputy Geraldo Siqueira, 33, Workers Party (PT), is scheduled in the assembly today, at which time he will demand of the Montoro administration a policy for the Secretariat of Science and Technology.

Aloisio Nunes Ferreira, 39, leader of the government in the assembly, declared that he is opposed to the construction of the bomb, which does not mean that he is against nuclear research, which he considers extremely important for our technological independence.

In his opinion, "to think of nuclear energy in terms of the bomb is the same as thinking of electric energy in terms of the electric chair." According to Aloisio, "the nuclear issue is a highly controversial subject and as such must undergo broad public discussion, which cannot be restricted by the existence of so-called secret projects. Those projects are nothing more than obstacles institutionalized during the authoritarian period to keep the public removed from discussion of serious issues."

The commander of the 2d Army in Sao Paulo, Sebastiao Ramos de Castro, yesterday refused to speak about the research that could make the country self-sufficient for the construction of the atomic bomb. According to Major Juarez of the public relations section of the 2d Army, the subject should be taken up with the Army Technological Center (CTEX) in Rio de Janeiro. According to him, General Ramos de Castro would not speak to the press because "he was not familiar with the project that is being developed at the IPEN and his function is simply to execute missions, not head research."

Admiral Cesar de Andrade, commander of the Naval Commission, the navy agency in Sao Paulo, was not available to comment about the possibility of the Brazilian atomic bomb being built in 1990 and also on the nuclear submarine project that is being developed in the IPEN.

Aureliano Considers It Difficult To Make the Bomb

Brasilia--Minister of Mines and Energy Aureliano Chaves, 56, admitted yesterday that the enrichment of uranium for use in nuclear reactors can be used to enrich uranium intended for the construction of the atomic bomb. But he made the reservation: "Theoretically, the enrichment of uranium for the generation of energy can be applied to enrichment intended for the construction of the bomb; but that is a very complex thing and it will not be easy to do it because the uranium must be enriched 3 percent for reactors, while for the bomb it must be enriched 97 percent."

The minister adamantly refused to comment on the report published Sunday by the FOLHA, according to which the Energy and Nuclear Research Institute (IPEN), the Ministry of the Navy and other government agencies are developing a parallel nuclear program with the aim of constructing the atomic bomb in 1990. "That is

a subject I will not comment on because it is not connected with my ministry," declared Aureliano, adding: "The only ones who can respond on that subject are the ministries mentioned."

The uranium enrichment technology is known by only a number of countries (the United States, Britain, France, the Soviet Union, the Netherlands and Germany) and even the other countries that have already exploded atomic bombs--India and China, for example--did it only with uranium enriched by one of those countries.

Military Unaware

In the military area, circulation of the report that Brazil should have its first atomic bomb in 1990 was received with surprise. Navy Minister Admiral Henrique Saboia said that there are studies but that he has no knowledge of their extent. "There is a desire to possess nuclear fuel technology but, for the time being, we are going along," he emphasized. In the army, there is a complete lack of knowledge about the matter. The ministry spokesman, General Ruperto Pinto, said that the army is removed from the development of those studies. The chief of the Ordnance Department, General Jose Albuquerque, also does not know anything about the program.

In the Ministry of Aeronautics and in the Armed Forces General Staff (EMFA), the ministers did not want to comment on the subject.

IPEN Project Data Requested

Sao Paulo FOLHA DE SAO PAULO in Portuguese 1 May 85 p 25

[Text] Deputy Geraldo Siqueira, 33, PT leader in the Sao Paulo Legislative Assembly, presented a petition yesterday requesting information about the existence of secret projects conducted by the Energy and Nuclear Research Institute (IPEN) of the University of Sao Paulo which allegedly would permit the construction of an atomic bomb, as reported by FOLHA last weekend.

Siqueira wants to get information on the alleged dual administration of the IPEN (state government and navy), as well as on the degree of control which the current directorate named for the institute has over the projects that are conducted there. The deputy considers it important to know also if the state government has knowledge of the expenditures of that agency and if it supports the development and construction of a reactor for the nuclear propulsion of a submarine for the navy.

The deputy also asks the state government why the Legislative Assembly has not been informed of these facts and if the IPEN employees receive a double salary, particularly those technicians who are working in the military area.

Political Decision

In his justification, Siqueira states that "the development of nuclear energy is a political not a scientific or technical decision." He points out that "the Secretariat of Industry, Commerce, Science and Technology to which the

IPEN is attached puts out the bids, names the superior council but does not present a state policy for the nuclear issue. Worse than that, in his third annual message to the assembly, Governor Montoro did not make a single reference to the state's nuclear policy.

In an aside, Deputy Fernando Moraes, 38, pledged in his capacity as deputy leader of the PMDB to strive to see that this information is supplied to the Legislative Assembly with the greatest urgency. The PMDB deputy declared also that at the time of the Geisel administration, when the nuclear agreement was signed between Brazil and Germany, he had joined the popular action to prevent the construction of nuclear plants in the state of Sao Paulo, alleging that Brazil did not need nuclear energy for peaceful purposes inasmuch as it has enough hydroelectric source energy for several decades.

Deputy Antonio Scopel, 58, Brazilian Labor Party (PTB), a member of the Science and Technology Committee, believes that this issue is very complex and must be discussed with society. In his opinion, the development of nuclear projects is basic for the country but only for peaceful purposes. Deputy Valdemar Chubacci, first vice-president of the PMDB, declared that he will discuss the matter with Governor Franco Montoro next Tuesday.

Accusation at Bonn Conference

Sao Paulo FOLHA DE SAO PAULO in Portuguese 28 Apr 85 p 25

[Text] A conference of alternative parties from all over the world will begin on the 2d of next month in Bonn, West Germany, convened by the German Greens Party of discuss through 7 May the military strategies of the countries that will be represented. State Deputy Geraldo Siqueira, 34, of the PT, is going to participate for Brazil. He plans to make known to the antiarmament forces that will be present there the determination of the Brazilian military to build nuclear weapons."

The deputy is going to advocate "the right of the people of the countries involved in nuclear programs to have access to the secret agreements, even the official ones." Geraldo Siqueira said also that his position, beyond access to information on nuclear agreements, is one of opposition to the country "spending incalculable and secret sums on a military dream to become an atomic power, especially at the time when civilians have assumed power.

"It is the duty of the present Brazilian Government to demolish those megalomaniacal plans of nuclear greatness and inform the Brazilian people about everything that has been done by the military until now at the expense of their sacrifice."

Before departing for Germany on Tuesday, the deputy promised to make a speech in the Sao Paulo Legislative Assembly on the responsibility of the Sao Paulo state government for the research conducted within the IPEN.

"It is more than certain that the IPEN is working on the construction of reactors for the production of plutonium in the University of Sao Paulo; it is inconceivable that the state government is unaware of that. Worse still is that it should know and has not taken any measures in that regard."

Book Seeks To Clarify Ramifications of the Agreement Between Brazil and Germany

The decision to build the atomic bomb was taken at the beginning of the Geisel administration in 1974 by the National Security Council. That is one of the pieces of information that will be included in the book by journalist Frederico Fulgraff, 34, scheduled to be issued in August. Frederico states in the book, under preparation since 1982: what led Brazil to adopt the decision to have its own bomb was "the international prestige syndrome, which was shown to be feasible when India exploded its atomic bomb in 1974 after clandestine research."

According to the writer, the intention of those countries that secretly seek to achieve mastery of the complete nuclear fuel cycle is "to further break the international monopoly of the superpowers. That monopoly, characterized by a great asymmetry--as the military like to categorize it--means barring the access of any country to nuclear technology while they (the superpowers) invest more and more in their nuclear arsenals."

Outside of that, the Third World countries that decided to build their own bombs (with the exception of Brazil and Argentina) did so because of border confrontation problems. "Pakistan set up its ultracentrifugation enrichment process through smuggling despite having an official agreement with France and other member-countries of the European Common Market. Its parallel program was implemented because of its neighbor, India. Various high-level technicians went to work in European research institutes, principally in the Netherlands where the largest centrifugation enrichment plant is located, and they smuggled the whole project," Frederico reveals.

"South Africa is working in collaboration with West Germany. That is confirmed in the book, 'The Nuclear Axis,' of Zdenek Cervenka and Barbara Rogers, who are being sued by the German courts for having published secret documents on that parallel agreement. Those documents were forgotten by a South African diplomat in the garage of the building from which he moved in Cologne."

Citing other examples, Frederico concluded that "today there exists an International of traffic in technology of military interest to the emerging countries. According to Frederico, that clandestine nuclear connection, including the exchange of scientists invalidates the arguments that everything is "minutely supervised" by the international agencies. For that reason, he considers that Brazil is investing in the construction of the atomic bomb through the knowledge acquired from the official agreement with Germany and secret contacts with Third World countries.

In the current situation, the writer believes that it is the task of that "New Republic" to redeem the ethics and trust lost during the previous military government "renouncing the project to build nuclear weapons and strengthening

the antiarmament movement of the nonaligned countries, setting an example for the other countries of Latin America that are making inroads in that direction, such as General Pinochet of Chile."

Cerqueira Leite Does Not Believe There Is the 'Desire' To Build the Weapon

The titular professor of physics of the University of Campinas, Rogerio Cerqueira Leite, 53, member of the editorial board of FOLHA, declared that "if the atomic bomb was being build in Brazil it would probably be of plutonium" because there is the competence here to build a reactor to "burn" uranium. After the calcination of the mineral, the technology necessary to produce the bomb would be precision mechanics, control systems and electronics. The construction of the "furnace," as Cerqueira Leite called it, requires a simple project that would consume between \$300 and \$400 million.

Meanwhile, the physicist made it a point to emphasize that in his opinion there does not exist the political desire to build the device. "What is being done here is to produce technologies that are accessories in the construction of the bomb. But I have no evidence that it is being built."

Another physicist from the Federal University of Rio de Janeiro, Enio Candotti, 42, supports the opinion that Brazil signed the nuclear agreement with Germany "to acquire technological know-how for building nuclear weapons." Candotti's argument is that when one creates an industrial and technological infrastructure for processing uranium one may be thinking of the generation of energy or the construction of military devices. For him, what reinforces the argument is the autonomy which the military have over the parallel program.

In Enio Candotti's opinion, "in the name of that parallel program, there is an enormous waste of resources. An example of that is the Aeronautics Technological Center (CTA), which operates with very sophisticated equipment with infinite idle time which, thus far, has yet to confirm its scientific production."

Upon learning of the charge, Major General Hugo Piva, 58, director of the CTA, argued that the projects carried out there, especially in the Institute of Advanced Studies (IEAv) are secret and that the budget of the agency "like all military budgets" is confidential. "I have given satisfaction to all my superiors and to all the financiers of our projects." According to Piva, the financiers are the Armed Forces General Staff (EMFA), the Studies and Projects Financing Agency (FINEP-BNDES), the Bank of Brazil, the Superintendency for Development Council (CNPq), the National Nuclear Energy Commission (CNEN), the National Security Council and the Ministry of Aeronautics.

The project of atomic fusion by laser ray carried out in the IEAv is regarded by Hugo Piva as a small project but he did not want to provide further information because the stage of the research is secret. "Everybody that is investigating that is keeping it secret, we too," adding only that that fusion being pursued generates a great source of energy "but it will not yet come in this century." The main purpose of the fusion by laser ray research is to "gain data for the production of nuclear fuel."

CTA Responds

Like other military men, the director of the CTA defends a parallel nuclear program free from international safeguards. "We cannot remain in the hands of half a dozen rich, powerful and developed countries for the supply of our nuclear fuel for the operation of plants that are going to generate the energy that the country will need."

Despite considering it a "lack of judgment for Brazil to become involved in the nuclear race, General Piva considers that "with the potential of the physicists we have spread out over our universities, we almost have the capacity to make the bomb because there are people competent to do so. Besides that, it is true that the more one advances in that technology, the more capability one acquires."

Nuclear Research Is Under Control of Previous Government

In the opinion of physicist Luiz Carlos Menezes, 41, professor of the Physics Institute of USP, "it is disturbing that the current Brazilian Government has returned the energy sector to the Geisel government (referring to the presence of Aureliano Chaves in the Ministry of Mines and Energy, Mario Behring in the Brazilian Electric Power Stations Corporation (ELETROBRAS) and Camilo Pena in the Furnas Electric Power Stations); precisely the same sector that established the plants and committed other nuclear follies."

According to the physicist, if the quest for nuclear technology were for the purpose stated--the pure and simple generation of energy--the international safeguards would not represent an obstacle. But the official agreements do not serve for military use, even for the propulsion of submarines. When one does not want international supervision, he adds, "it becomes important to have a completely independent program or one associated with countries seeking the same objective."

For Luiz Carlos Menezes, two questions remain among those who are not participating in the system: why is IPEN going to produce a reactor for the production of plutonium; and what fuel will be used in that reactor?

"It is evident that an effort is being made to achieve that reactor and the fuel," he explained; more than that--to produce metallic uranium, that is, an element that makes it possible to produce plutonium. After being purified, that plutonium can be used to make nuclear explosives. Everything indicates that the reactor the IPEN is striving to build is a "fast breeder" which produces plutonium, he concluded.

"Even if the pretext were the use of plutonium in a 'breeder' reactor for peaceful purposes, why is this project military and not civilian?" asks the physicist.

In conclusion, Luiz Carlos Menezes appeals to the civilian government installed on 15 March: "It is necessary that in trying to build democracy, this government take into account the fact that national security is the responsibility of the whole nation and not only that of its military sector."

Bomb Said On the Way

Sao Paulo FOLHA DE SAO PAULO in Portuguese 29 Apr 84 p 14

[Text] Luiz Pinguelli Rosa, professor of physics of the Federal University of Rio de Janeiro, confirmed that Brazil is on the road to the atomic bomb and that it is in a position to build it by 1990. "The project for the construction of the nuclear submarine that is being developed under the responsibility of the navy in the Institute of Energy and Nuclear Research (IPEN) can operate as a smokescreen for the construction of the bomb. Because the technology for the construction of the atomic [sic] submarine is more advanced than that required for the construction of the bomb," declared the scientist.

Pinguelli Rosa described as timely the report on the subject published by FOLHA yesterday and declared that discussion about the Brazilian atomic bomb--"I am convinced that we are on the road to it"--can no longer be restricted to government personalities and the military technobureaucracy. He advocated a public debate of the issue from the democratic terrain created by the New Republic. "It is romanticism to think that the achievement of the 'New Republic' puts an end to that debate, which is very complex. It is now that we have to begin the discussions because the decision to build or not to build the nuclear bomb will be taken in the next 2 years."

The scientist declared that Brazil and Argentina are engaged in a nuclear race--"one is going to build the bomb because the other is going to make it"--and for that reason he proposes that Presidents Jose Sarney and Raul Alfonsin make a pact to insure that the nuclear studies will not result in the construction of the atomic bomb. According to him, it is fundamental in that pact that there be an opening for one country to inspect the other. Pinguelli extends the pact proposal to all of Latin America but says he is especially concerned about Brazil and Argentina, who are closer to the atomic bomb.

Other Priorities

The report that Brazil is moving toward the production of its first atomic bomb in 1990 generated protests among scientists and ecological movement activists heard by FOLHA. In the opinion of some of them, all of the country's nuclear projects need to be brought to the attention of the public and analyzed by the national congress, which would have the responsibility for the decision to channel research in the energy or military direction.

The president of the Brazilian Society for the Advancement of Science (SBPC), biologist Crodowaldo Pavan, stressed that "by having the technology, it is possible to make the bomb. But it is also possible to avoid it since it is a matter of a political decision." Pavan even believes that nuclear technology is a "lesser priority, to be developed in the medium term." In his opinion, in terms of research, fields such as biotechnology and informatics are of a higher priority. He emphasized that he believes that Brazil has much more important problems to resolve, such as in education, science and technology and agriculture.

Attorney Fabio Feldman, an activist in the Oikos ecological group pointed out also that nuclear energy is a controversial issue all over the world even when used for peaceful purposes because of unresolved problems, such as nuclear waste. In the specific case of the possible Brazilian bomb, Feldman is of the opinion that it is an old project that goes back to the time of the signing of the Brazil-Germany agreement 6 years ago. The most disturbing thing about that project to him is that "there have been no signs that the matter will be discussed by society. The nuclear issue is still under the rug and is treated exclusively in the restricted context of national security," he said. According to Feldman, this area must be subject to the control of congress and receive special attention by the future National Constituent Assembly.

Military Industry

In the opinion of physicist Ernst Hamburguer, president of the Association of Professors of USP (ADUSP), the nuclear issue must be viewed in the context of the whole Brazilian military industry. In his opinion, in terms of the country, "the military industry is "a necessity," although he makes the reservation that he has pacifist convictions. However, he declared that this industry should not be secret but rather should be under the control of the democratically elected and controlled congress. It is necessary to know what is being done."

With regard to nuclear technology, per se, Hamburguer believes that it should be developed in Brazil and believes it is valid to build reactors with Brazilian designs. But he made the reservation that "it is necessary to see what will be done with them and if they are of interest to the country."

Referring to the Institute of Energy and Nuclear Research (IPEN), one of agencies where the Brazilian bomb is being secretly developed, the president of ADUSP considered it "absurd" that there should be "facilities of military interest" within the USP campus. Hamburguer asserted that he had already expressed his concern about the IPEN's activities to the university rector's office, in view of not only the university but also the fact of being within a densely populated area, between the districts of Pinheiros and Butanta.

8711

CSO: 5100/2108

BRAZIL

RESTRUCTURING OF NUCLEAR PROGRAM PROPOSED

PY040154 Sao Paulo O ESTADO DE SAO PAULO in Portuguese 27 Jun 85 p 32

[Text] According to the current Brazilian Nuclear Corporation [Nuclebras] president, Licio Seabra, the solution to the Brazilian nuclear program calls for the complete restructuring of Nuclebras and its six subsidiaries to turn them into a subsidiary department of the Brazilian Electric Power Companies [Electrobras]. This department would construct power plants. Only a small independent company would be left in charge of the fuel cycle. The Brazilian Government is to analyze this proposal in the next few days.

By following the French model, in which the electric companies are responsible for the construction of nuclear power plants, the Brazilian Government would begin to dismantle the FRG-Brazilian nuclear program that was launched 10 years ago, on 27 June 1975, by President Geisel. In those days, Minister Shigeaki Ueki and the first Nuclebras president, Paulo Nogueira Baptista, initially intended to construct eight nuclear power plants worth \$40 billion plus another 35 power plants before the year 2000.

In this manner, Brazil intended to become a nuclear power that would construct nuclear power plants for itself and for Third World countries. Also it would supply enriched uranium. The Nuclebras company was then formed. Today it has 5,200 employees and a payroll of more than \$3.5 million monthly. However, it suffered losses of 173.2 billion cruzeiros in 1983 and 139.3 billion cruzeiros last year.

Since 1975, the only substantial production by Nuclebras, which has an annual budget of 7 trillion cruzeiros, is "bureaucracy." Several subsidiaries were formed: Nuclebras Heavy Equipment, Inc [Nuclep], Nuclebras Isotope Enrichment, Inc [Nuclei], Nuclebras Mining Assistance, Inc [Nuclemon], Nuclebras Engineering, Inc [Nuclen], and Nuclebras Nuclear Plant Construction, Inc [Nucon], which are all in Brazil; plus one in the FRG, Nustep [expansion unknown]. Nuclebras spent \$2.8 billion in 10 years, which, added to the \$1.8 billion paid on the debt, total \$4 billion. This represents the total loss if the company were liquidated right now.

Brazil was unsuccessful in obtaining sensitive technology, such as the uranium enrichment process, through an agreement. Brazil bought ultracentrifugal technology that was tested and developed by its German creators. However, under U.S. pressure, the Germans backed off and offered Brazil a new, untested technology, leaving us to take the risk that it would someday become a successful and profitable technology. After 10 years of laboratory tests that ultracentrifugal uranium enrichment process, which is called jet nozzle, is still neither technologically nor scientifically viable.

In an uncertain and bold manner, and without first developing its own technology, Brazil tried to join the restricted group of countries that have mastered the uranium

enrichment process. Also, it intended to sell nuclear power plants to Third World countries, which led Geisel, Ueki, and Paulo Nogueira Baptista to overextend the program by constructing the Nuclep factory, the world's most modern factory of heavy equipment, in Itaguaí. According to Licínio Seabra, it cost \$350 million.

Seabra believes that the problem of the idle Nuclep factory could be solved through privatization if Brazilian businessmen were interested. This factory serves as a storage area for the Angra II and Angra III power plant equipment that was stored in the port of Hamburg before coming to Brazil, and has been admired by U.S., Japanese, and European businessmen, who only regret that they were not seeing it operating. In the opinion of the businessmen who have visited it, not even the Arabs would dare to do so much.

Considering the constant construction delays, the Angra II and III power plants may face the same problems as the Angra I plant, which resembles a "firefly" that turns on and off because of its undependable equipment. Angra I needs an additional \$300 million to start operating safely. There is more than \$3 billion worth of equipment stockpiled in Itaguaí, including sophisticated electronic equipment, turbines with very heavy axles that would bend if they were not turned periodically. There is a lot of equipment that, according to technicians, will be damaged by rust resulting from sea breezes to which it is exposed.

As if those problems were not enough, Nuclebras has put up with the government's lack of interest and with more than 300 suppliers and contractors who are trying almost daily to get their money. Licínio Seabras has to make a great effort to come up with funds to meet monthly payments. Suppliers of fuel, wire, and even food for Nuclep workers only accept payment in cash, no more credit.

The enterprise, which "has lived in a fantasy world" since its inception, as Licínio Seabras himself says, will not be able to survive in the new Republic, which demands efficiency and profitability from state-run enterprises. According to Licínio Seabras, the greatest error of Nuclebras was not starting with its own well-defined source of resources like Petrobras, which got its resources from a single tax on lubricants and fuels. Now, according to him, Nuclebras is unviable and unmanageable. The solution will be to tie it directly to the electricity sector and to adopt the French managerial model, transferring to Eletrobras the responsibility for building the Angra II and Angra III nuclear plants, and perhaps one more nuclear plant, to avoid having to dismiss the team of technicians and engineers.

Nuclebras will continue to work on the fuel cycle and on process engineering. It will build a new uranium concentrating plant in the Lagoa Real mine, Bahia State, since the production at the Pocos de Caldas plant is not only insufficient to supply three nuclear plants, but employs an inefficient industrial process that makes its expansion unadvisable. As for the fuel cycle, it is to be hoped that Brazil is successful in getting its technology to work, because, in the opinion of Licínio Seabras, no compliant can be made to the FRG.

Paulo Richer, secretary general of the Mines and Energy Ministry, said yesterday in Brasília, on the tenth anniversary of the signing of the Brazilian-FRG nuclear agreement, that the country cannot dispense with the future use of nuclear energy. Mines and Energy Minister Aureliano Chaves plans to tailor the Brazilian nuclear program to the real availability of resources. In line with this thinking, Nuclebras plans to invest a minimum of 1.8 trillion cruzeiros this year. The mines and energy minister is considering the possibility of halting the construction of new nuclear plants until the question of financing has been resolved.

CSO: 5100/2140

BRAZIL

ENGINEER DISCUSSES NUCLEAR WASTE DISPOSAL PROBLEMS

Rio de Janeiro O GLOBO in Portuguese 8 May 85 p 23

[Text] "Atomic waste," the highly radioactive waste produced by nuclear plants, was the subject of the lecture that nuclear engineer Joaquim Francisco de Carvalho, current representative of the Sao Paulo Electric Power Stations (CESP) in Rio delivered yesterday in the Science at Six-Thirty project that is being organized by the Brazilian Society for the Advancement of Science (SBPC).

According to him, independent of the results of Angra-I, Brazil is already facing the same problems that affect the countries that have nuclear plants. The 25 tons of enriched uranium that Angra-I is going to burn each year, for example, will produce 1 ton of highly radioactive waste during that same period.

According to Joaquim Carvalho's information, that waste consists of Cesium-137 and Strontium-90 which, in addition to penetrating the body, will require 600 years to become harmless. Furthermore, that same ton of "atomic waste" will contain 190 kilos of plutonium, including the frightening 239, which will require more than 24,000 years to reduce its radioactivity by half.

The nuclear engineer who spoke in the SBPC project yesterday went further. He said that it has not been possible to find a safe and definitive storage site anywhere in the world to keep those wastes. Some of them need to remain isolated from the biosphere for 10,000 years or more. According to him, one of the current solutions is the final disposition in caverns excavated in rocky environments such as granite massifs in vitrified and crystallized cylinders at a depth of up to 600 meters.

Carvalho said also that the wastes produced in the nuclear plants--the products of fission and actinides--are initially stored in special tanks at the plant sites. After being cooled, and in the event that the producing country has a reprocessing plant--at the present time, only France, Britain and the United States have them--part of the wastes, such as plutonium and uranium, are reused. The remainder will have to remain stored in a safe place for thousands of years.

The nuclear agreement between Brazil and Germany envisages the construction of a plant of that type but thus far nothing has been done. The Angra-I

tanks have a storage capacity of up to 6 years but they can be expanded and triple that period. Joaquim Carvalho concluded his talk recalling that in 1975 the United States had 1,200 tons of wastes stored and there are indications that there was leakage. For that reason, according to him, Brazil needs to confront that problem now.

8711

CSO: 5100/2102

24 July 1985

BRAZIL

BRIEFS

MONAZITIC SANDS MINING--Rio--The Nuclebras Monazite and Associated Minerals Corporation (NUCLEMON), a subsidiary of the Brazilian Nuclear Corporation (NUCLEBRAS), this week began the mining of heavy minerals (known as monazitic sands) in Cumuruxatiba, southern Bahia, producing 50 tons of monazitic sands this month of April. According to the director-superintendent of the company, geologist Paulo Miranda, the goal is to double the production of heavy minerals by 1987. Last year, NUCLEMON concentrated its mining work in northern Rio and southern Espirito Santo. The company also investigated the regions of Itapirapoa, between Sao Paulo and Parana; Bambui, in Minas Gerais; Peixe, in Goias; and the regions of Pocos de Caldas, Catalao, Araxa and Itapira (Minas Gerais), in the search for rare-earths. The company has 100 percent national capital, employs its own technology and has been producing zirconite, rare-earths and lithium. [Text] [Sao Paulo GAZETA MERCANTIL in Portuguese 17 Apr 85 p 11] 8711

CSO: 5100/2102

CHILE

BRITISH TO MODERNIZE NUCLEAR REACTOR, PROVIDE ARMY VEHICLES

Lima EL COMERCIO in Spanish 4 May 85 p B-2

[Text] London, 3 May 85--Great Britain is trying to sell military vehicles to the Chilean Government and seeking a contract to modernize a nuclear reactor, according to a report published today by the political information magazine NEW STATESMAN.

The magazine, which quotes Defense Ministry sources, reports that in January 1984, the government authorized the export of a Centaur model half-track vehicle in order that the Chilean armed forces could check its effectiveness.

Six Million Pounds

It seems that the Chilean Government is interested in acquiring 300 of those vehicles, which are equipped with a light machine gun as a standard item, though an ample assortment of accessories is also available.

A spokesman for the manufacturer of the Centaurs, Laird Ltd., declined to confirm the existence of this deal whose cost would be more than 6 million pounds sterling (some \$7.5 million).

British Government Authorization

On the other hand, also according to the NEW STATESMAN, the British engineering enterprise Fairey received permission from the government 6 months ago to submit to Chile a proposal for the modernization of a reactor of the Lo Aguirre nuclear power plant in the outskirts of Santiago. Though described as a civil nuclear power plant, the installation in question is fully under military control.

In September 1982, the British Government agreed to sell enriched uranium to Chile in return for the aid provided by the government of General Pinochet to the United Kingdom during the Malvinas war, according to the NEW STATESMAN.

Of late, the Chilean Government has become interested in the possible acquisition of a broad collection of British armament, ranging from

missiles (Rapier, Seawolf, Seacat, Swingfire and Blowpipe) to planes (Harrier and Hawk) and helicopters (Lynx), or various classes of ships.

Laborite Protest

The existence of these two British offers has provoked a protest from the Laborite opposition spokesman for Latin American Affairs, George Foulkes.

Foulkes asserted that the alternative is to support human rights or sell weapons, and it seems that the government of Margaret Thatcher has opted for the latter.

8414

CSO: 3348/687

PERU

URANIUM DEPOSIT DISCOVERED IN MACUSANI, PUNO

PY292130 Paris AFP in Spanish 2127 GMT 28 Jun 85

[Text] Lima, 28 Jun (AFP) -- General Juan Barreda Delgado, president of the Peruvian Institute of Nuclear Energy [IPEN], reported today that a 600-square-km uranium deposit has been discovered in Macusani, Puno, some 1,300 km southeast of Lima. The estimated potential of this mine is 200,000 tons of uranium ore. Recalling that uranium was first detected in this zone in 1978, Gen Barreda stated that the first uranium deposit of Macusani has a confirmed reserve of 34,000 tons. In view of the importance of the discovery, experts from the International Atomic Energy Agency [IAEA] made the final studies in 1983. He added that the possible reserves, according to the studies, amount to 40,000 tons and the negotiable value of that amount reaches \$4 billion, with a net worth of \$1.6 billion.

Barreda recalled that IAEA expert Enzo Locardi defended the theory (1983) that that zone was in fact a volcanic basin where for thousands of years a natural uranium deposit has been forming. He said that a land expedition sent that same year obtained natural samples of uranium that had unique purity levels of up to 60 percent. Higher purity levels, said Barreda, are found only in laboratories.

Gen Barreda added that so far only prospecting and research have been done, and that a little more than \$2.075 million have been invested. He added that the Peruvian Government has not invested larger amounts of money and that it is not in a position to exploit the deposit because it would take \$15 million just to do some test in Macusani, and between \$150 million and \$200 million would be need to exploit the mine.

CSO: 5100/2138

BANGLADESH

UN DELEGATE WELCOMES GENEVA ARMS REDUCTION TALKS

Dhaka THE BANGLADESH TIMES in English 10 May 85 pp 1, 8

[Text] Bangladesh has expressed its happiness at the recent resumption of arms reduction talks between the two super powers in Geneva, reports BSS.

Participating in a debate in the UN Disarmament Commission in New York yesterday Lt Gen (Retd) Khwaja Wasiuddin, Permanent Representative of Bangladesh to the UN General Assembly, expressed also grave concern at the unprecedented arms race, both nuclear and conventional.

He said that Bangladesh was happy to note that the two super powers had recently resumed their negotiations and hoped that any progress achieved at the negotiations should make a positive contribution towards the reduction of international tensions.

Ambassador Wasiuddin said that Bangladesh was firmly convinced that there could be no durable peace without the elimination and destruction of nuclear weapons. Bangladesh, he said, in pursuance of her firm and irrevocable commitment to the General and Complete Disarmament (GCD), had acceded to the nuclear non-Proliferation Treaty (NPT).

The limitation of nuclear armaments and other weapons of mass destruction was an essential prerequisite for the creation of atmosphere of trust and confidence and the relaxation of international tensions, he observed.

He said Bangladesh was equally alarmed to note that attempts were being made by the nuclear powers to use the outer space for military purposes.

All such attempts, he said, should be halted and the outer space declared as a common heritage of mankind.

Turning to the reduction of military budgets, he said that Bangladesh had emphasized the need to divert the colossal financial and other resources currently being consumed by the armaments race towards the elimination of the poverty the world over.

Expressing concern on the question of South Africa's nuclear capability, Ambassador Wasiuddin said that determined efforts must be made during the current session to adopt concrete recommendations with a view to preventing South Africa from becoming a nuclear power.

Ambassador Wasiuddin said the question of disarmament which had global dimensions and implications could only be addressed in a multilateral context.

CSO: 5250/0009

INDIA

GANDHI REMARKS ON PAKISTAN NUCLEAR ARMING REPORTED

Speech to All-Indian Congress-I Committee

Calcutta THE SUNDAY STATESMAN in English 5 May 85 pp 1, 7

[Text] New Delhi, May 4—The Prime Minister said today that the Government was considering "action to be taken" by India in view of Pakistan developing nuclear weapons. There are definite reports with the Government that Pakistan is going ahead with the development of nuclear weapons and this dangerous development will completely change the present military balance in the subcontinent, he said, in course of his opening remarks at the All-India Congress (I) Committee meeting which began at the Talkatora Indoor Stadium here.

Mr Rajiv Gandhi said: "We are looking into various aspects of this development and what action we should take." He indicated that India would take appropriate steps to counter the Pakistani move to acquire nuclear capability and lethal weapons.

Mr Gandhi alleged that the big powers were not sincere in their efforts to stop Pakistan from developing such facilities, adding that India was already facing serious problems owing to excessive militarization across the borders, particularly induction of highly sophisticated arms into Pakistan.

Arms Race

He said India wanted to reduce expenditure on armaments and use vital resources for developmental activities, but this was not possible because of the escalated arms race in the region. "The country cannot afford to lower its guard and we have taken steps to counter all these moves. Our defence forces today are equal to any in the world," Mr Gandhi said amid cheers.

The AICC (I) also took a serious view of the persistent efforts of Pakistan "to acquire nuclear capability and is of the opinion that large-scale procurement of sophisticated weaponry is against the concept of durable peace in the subcontinent. The part of the resolution on international situation that spoke of Pakistan's moves in this matter said that

denials notwithstanding, all evidence pointed to preparations for building nuclear weapons.

On the trouble in Sri Lanka, the Prime Minister said contacts had been established with the Sri Lankan Government at various levels to sort out the problem. The efforts of the Government were aimed at ensuring that the Tamils in Sri Lanka continued to live in that country with honour, dignity and safety.

He said there had been spurt in negotiations at times, and then there had been periods of slower movement, but the negotiations were continuing. He assured the AICC (I) that the Government would never take any step that would endanger Tamils' safety in that country.

Foreign Visits

Referring to his forthcoming foreign visits, Mr Gandhi said he would be leaving later this month for Soviet Union "to renew our bonds of friendship and I look forward to increasing cooperation with the Soviet Union, to make personal contact with the new Soviet leaders and establishing a long friendship for the future." He said India's relations with the Soviet Union had always been strong, warm and friendly and "we want to make them even stronger."

He said later he would go to the USA where he would make efforts to increase India's economic, cultural and other cooperation with that country. He would also visit France, Algeria and Egypt. In all these countries, Mr Gandhi said, "I would make the people and Governments understand what India is and what it stands for."

In course of his first-ever address as president at an AICC (I) meeting, Mr Gandhi also made exhaustive references to the Punjab problem, calling upon the Akali leadership to reciprocate the gesture of goodwill shown to them by Government and help resolve the Punjab problem.

He reiterated that the Government was sincere in solving the problem and said positive steps had been taken in that direction. The steps had demonstrated that the Government strongly felt for Sikh sentiments and feelings.

Mr Gandhi held that only a handful of people wanted to secede and they were trying to drive a wedge between Hindus and Sikhs by killing selected people. The majority of Sikhs believed in India's unity and integrity, he said.

He noted that development work had virtually come to a halt in Punjab because of prolonged agitations and disturbances. The Government, however, was taking steps to maintain the State's economic prosperity.

He also referred to the situation in Gujarat and the anti-reservation agitation in that State and accused some political parties of taking the issue to the streets after having been defeated in the elections.

During the poll, he said, reservation was an issue and the people of Gujarat had given their verdict on it by giving the Congress (I) a massive mandate. "No amount of agitation can now take away the power given to us by the people," he said, raising his voice.

Mr Gandhi said he believed in solving the major problems through consensus and with this end in view he had convened meetings of Opposition leaders. But to arrive at a consensus on an issue, there should be some basis. The consensus could not be at the cost of India's unity and integrity, he added.

Judging by the developments in the last three or four years, he said, Opposition parties had always taken to agitations after they were defeated in an election. During the poll, they swore by democracy and after defeat conveniently forgot the noble thoughts they had preached.

He said the Government's action in giving incentives to the industry had led to some misunderstanding among the people that the Government was pandering to the private sector. Stoutly denying this, the Prime Minister said these steps were meant to increase productivity.

He reiterated that no change or departure from the nationally accepted policy towards foreign investment and multinationals was contemplated. Foreign investment was being sought to supplement the local resources and industry.

Socialism

The Prime Minister said the Government was also giving a specific direction to science and technology "Instead of wasting our efforts on developing all sorts of facilities, we would now concentrate only on a few for best results." He categorically stated that his Government was committed to the policy of Socialism, asserting "we are not wavering from this."

The Government's basic thrust was to make Indian industry and agriculture face world competition and for this "we have to ensure optimal use of the country's scant resources."

He said that in the Seventh Five-Year Plan the accent would be not to bind or tie resources, but to keep them mobile so that they could be used more effectively.

Mr Gandhi said that this was the centenary year of the Congress, and the Congress had waged a hundred years of struggle and had rendered a hundred years of service to the people of India. "We must now look forward to the next hundred years."

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He said amid cheers "We must make all efforts to lay the foundation for the second centenary celebrations. It is time when our country is facing tremendous challenges--challenges of development and technology, challenges from forces inside and outside to destabilize the country." He said he was sure India would meet all these challenges while "keeping the inner strength of the country and its spirituality."

To meet these challenges "we also must close our ranks and forever endeavour to assert the oneness of our people, to carry forward into an India of the next century."

Analyst's Report, Official's 'Clarification'

Madras THE HINDU in English 5 May 85 p 1

[Article by G.K. Reddy]

[Text]

NEW DELHI May 4

It is now pretty clear that India will not hesitate to exercise the nuclear option in self-defence, if Pakistan persists in its efforts to make the bomb and the Big Powers do nothing to restrain it.

The Prime Minister, Mr. Rajiv Gandhi, apparently had some disquieting intelligence reports about Pakistan's "persistent efforts" to attain nuclear capability, which compelled him to speak out twice within two days on the subject to caution the country about this grave development.

After he made a pointed reference yesterday to Pakistan's nuclear programme in his reply to the foreign affairs debate in the Rajya Sabha, the Prime Minister reverted to this issue today at the AIICC (I) session to make it known to all concerned that India was not going to keep quiet if Islamabad acquired nuclear weapons.

Addressing the AIICC (I), Mr. Gandhi said: "We feel that they (Pakistan) are developing a nuclear weapon" which he warned would change the whole situation in the region. He added: "We are looking into various aspects of this question to see what action we should take".

He also said: "We are not convinced that all powers which can do so are trying to stop them". It was an obvious allusion to his earlier charge that the U.S., in particular, was indirectly helping Pakistan's nuclear effort by excluding it from the application of the Symington amendment barring American aid to any country bent on making atomic weapons.

The Defence Minister, Mr. P. V. Narasimha Rao, who is well aware of the Prime Minister's apprehensions, went out of his way during the Lok Sabha debate last week on his Ministry's budgetary demands to tell members that the Government would like to have their views on what India should do if Pakistan acquired nuclear weapons. It was the first time ever that the Government had actually encouraged them to voice their feelings without any inhibition, knowing fully well that the great majority of them would want India to exercise the nuclear option.

Issue will figure at U.S. talks

This is going to be one of the major issues for discussion during Mr. Rajiv Gandhi's coming visit to Washington. A determined effort will be made to persuade the U.S. President Mr. Ronald Reagan, to exert all possible pressures to prevent Pakistan making the bomb, since it is bound to lead to a nuclear arms race in the region.

But India does not expect the U.S. to use its influence beyond a point to restrain Pakistan. The present Government, therefore, sees no great virtue in foreclosing India's option merely to prevail on the U.S. to intercede for averting a nuclear confrontation in the sub-continent.

During his talks in Delhi, the U.S. Under Secretary of State for Defence Policy, Mr. Fred Ikle, did make a gentle sounding to ascertain whether India would respond to any renewed suggestion for an Indo-Pakistan arms freeze at the present levels, implying that a suspension of further military aid to Islamabad should be followed by stoppage of Indian arms purchases from the Soviet Union. But the suggestion was rejected because any peremptory freeze after the U.S. had supplied several new weapon systems to Pakistan would adversely affect India by depriving the country of an opportunity to match them.

The nuclear issue is acquiring ominous dimensions, against the background of the conventional arms race that is already taking place in the sub-continent, in the light of the latest reports about Pakistan's attempt to press ahead with its bomb programme in a bold gamble to alter the regional power balances almost overnight.

Our Special Correspondent writes

The AIICC (I) viewed with anxiety the developments in Indo-Pakistan relations, mainly because of the continuing largescale procurement of sophisticated weapons by Pakistan, out of all proportion to its legitimate requirements. Pakistan's action, said the resolution on international affairs adopted at today's session, was inconsistent with efforts for durable peace in the sub-continent.

The resolution took serious note of the "persistent efforts" of Pakistan to acquire nuclear weaponry its denials notwithstanding

PM's remarks clarified

NEW DELHI, May 4.

Replying to the debate on the resolution on the international affairs at the AICC (B) here tonight, the Defence Minister, Mr. P. V. Narasimha Rao said it would be incorrect to interpret the Prime Minister, Mr. Rajiv Gandhi's opening remarks to mean that there would be a review of India's nuclear policy. "This interpretation is not warranted. I have the support of the Prime Minister in this clarification", he added.

Mr. Rajiv Gandhi, he said, had said something "very carefully and precisely" on Pakistan's efforts to

acquire nuclear capability.

In his reply, Mr. Rao said "Arm Pakistan to bleed India" seemed to be the thrust behind the supply of sophisticated weapons to Pakistan, but "we are not complacent about it".

He said there was no sign of the U.S. stopping supply of arms to Pakistan or diluting its security relationship.

However, it was incorrect to take an alarmist view that we are at loggerheads with our neighbour.

The Minister said India had to have certain amount of defence preparedness. "We have to maintain it, whatever be our relations with Pakistan or whatever weapons it gets or not".

India's policy was not one of "weapon for weapon" but was of system for system. "I would like to assure you that we are fully alive to the apprehensions and possibilities", he said — PTI

Nation at Crossroads

Calcutta THE TELEGRAPH in English 5 May 85 p 5

[Editorial]

[Text]

"Pakistan is still a problem," said Prime Minister Rajiv Gandhi in Parliament on Friday while replying to the two-day discussion on the working of the ministry of external affairs. What New Delhi finds worrisome is the acquisition of sophisticated weaponry and Pakistan's barely disguised pursuit of a nuclear weapons capability. The former, said the Prime Minister, has been "fully matched by us," but the latter, as we well know, is an altogether different matter. Mr. Rajiv Gandhi was more specific on the subject in his speech on the first day of the AICC session in New Delhi yesterday. He declared that since the government now had definite information that Pakistan was going ahead with the development of nuclear weapons, and since its success in this area would alter the military balance in the subcontinent, India would have to review the situation. In other words, the government has resolved to reexamine its own position on the nuclear option. In his pronouncements on Pakistan in recent months the Prime Minister has invariably drawn attention to that country's nuclear programme and said that, one, those who should know better have not been doing enough to dissuade it from seeking to make the bomb and, two, should it indeed acquire a weapons capability it will spell disaster in the subcontinent for the simple reason that a nuclear dimension would be added to the existing military rivalry between our two countries. On Friday, Mr. Rajiv Gandhi went a step ahead and said that the unique concession made to Pakistan by certain major powers of delinking economic and military aid from its nuclear programme was regarded by India as a "direct help" to that programme. The allusion to the US is unmistakable: Washington has made the unique gesture of waiving the disabling Symington Amendment in Islamabad's case; and Mr. Rajiv Gandhi has on more than one occasion in the past complained that the US conveniently "looked the other way" as Pakistan accelerated its drive towards nuclear weapons capability.

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Pakistan's strategy of coupling a peace offensive towards India with its pursuit of the bomb would have been commendable had not the Prime Minister himself seen through the game and referred to General Zia's insincerity: constructive talks in Moscow were followed by statements that were "contrary to what he told me." Pakistan's offer of mutual inspection of nuclear installations makes as little sense as its proposal that South Asia be turned into a nuclear weapons free zone. The first, nuclear scientists say, is meaningless because neither country has any means of ensuring that the other has not converted some of the fissile material into bombs before inspection is allowed. As for the peace zone proposal, Islamabad has been making it secure in the knowledge that New Delhi will not countenance any proposal that disregards the fact that there is a hostile nuclear power beyond the Himalayas. There is a powerful lobby in this country which has for years advocated that India actively pursue a nuclear weapons programme. After the 1974 Pokharan implosion, a section of this lobby, like India's critics abroad, was persuaded to believe that New Delhi had finally exercised the nuclear option. It is a measure of the credibility enjoyed abroad by India that today few westerners even unofficially declare that its nuclear programme is anything but peaceful. It is, however, clear now that the nation is at the crossroads. Pakistan's obduracy has prompted serious rethinking in New Delhi. No country can afford to contemplate with equanimity the definite prospect of having a bomb in its backyard. The onus is still on General Zia. Is it really worth it to condemn the people of our two countries to live under the threat of a nuclear attack? It has only been 30 years since Bandung. Surely that is not long enough to forget the spirit of Pancha Sheela?

Value of 'Option' Questioned

Calcutta THE STATESMAN in English 6 May 85 p 8

[Text]

"Despite the references to the Pakistani nuclear threat at the AICC (I) meeting on Saturday, too much need not be read in the Defence Minister's statement in Parliament on April 25 that it was time to elicit the opinion of the "enlightened members" of the two Houses on the question of India acquiring a nuclear weapons capability. Mr Narasimha Rao was merely intervening in a debate in which several members of the Lok Sabha had spoken on the subject. But it is worth noting that he did not merely reaffirm New Delhi's customary position that India would use nuclear energy for peaceful purposes alone. Several MPs strongly pleaded for keeping the country's nuclear (weapons) option

open, but the plea was hardly necessary since New Delhi has shown no intention of renouncing the option by signing the non-proliferation treaty. In fact even earlier official pronouncements had not entirely ruled out the possibility that the policy of using nuclear energy exclusively for constructive civil purposes might have to be revised in drastically altered circumstances. Not content with this formal option, a Janata MP specifically demanded that India start making nuclear weapons. It was in response to this plea that Mr Rao mentioned the Government's interest in ascertaining the views of the two Houses of Parliament. Whatever the implications of his cryptic remark, if opinion is

to be sought it should not be merely from "enlightened" MPs or even the full Houses. If the Government is interested in wider counsel, it should initiate an informed public debate at different levels. Even if the views of acknowledged military and technical experts remain decisive in significant respects, the political decision will have to be endorsed by public opinion.

All this, however, implies that it is now only a question of whether or not to exercise an available option. But how good is the technical option in practical terms? By exploding a nuclear device years ago, India demonstrated—even if no demonstration was intended—that India could make the bomb if it wished. But there is a world of difference be-

tween an underground nuclear explosion and an operational weapon, not to speak of a delivery system for the latter. It is not known what progress, if any, has been made from the technology of a powerful bang to that of a militarily usable system. Even preparations for the manufacture of explosive or fissile material have remained limited in scope. India has been producing plutonium, which was the material for the Pokharan explosion. But no serious weapons programme has been dependent entirely on plutonium, whether or not uranium-235 is technically more useful for a comprehensive programme; this fissile isotope or uranium which can be extracted from natural uranium by the process of enrichment, has formed an important part of all

major nuclear weapon preparations. Even Pakistan is following the routes of both plutonium production (from spent reactor fuel) and uranium enrichment. Though the Indian atomic energy work is far more advanced, there is no enrichment facility in this country, nor even a plan for one. Yet it is becoming increasingly clear that a uranium enrichment plant would be extremely valuable even for India's nuclear power programme: Tarapur would not have been such an intractable problem if enriched uranium had been produced in this country. This, of course, is only one technical requirement for an advanced nuclear programme; but a debate on the option needs to be conducted with fairly detailed awareness of the available facilities and remaining constraints.

'Clarification' Questioned

Bombay THE TIMES OF INDIA in English 7 May 85 p 8

[Editorial]

[Text]

THE AICC session over the weekend has been remarkable for turning the spotlight on the menace to this country posed by Pakistan's relentless quest for nuclear weapons capability. Not only did Mr. Rajiv Gandhi speak on the subject bluntly but, for the first time, the AICC, in a resolution that was adopted unanimously, took notice of this "ominous development" and expressed "grave concern" over it. Both the AICC resolution and the Prime Minister's remarks have to be viewed in the context of several pronouncements on the nuclear issue by him in recent days as well as the earlier decision of the defence ministry to include in its annual report a reference to the Pakistani nuclear threat with a view to eliciting Parliament's advice on how to cope with it. Four important strands in Mr. Gandhi's thinking are clear even from a cursory look at his successive statements. First, that he and his government are convinced that Pakistan is on the verge of developing a nuclear weapon, if it has not done so already. Secondly, far from doing anything to prevent Pakistan from going nuclear, some countries are acquiescing in, indeed encouraging, the Pakistani quest. At the AICC Mr. Gandhi may have spoken in general terms. But he was more specific to give Pakistan a permanent waiver from the Symington amendment that bars U.S. military or economic aid to any country engaged in the acquisition of nuclear weapons.

The third strand in Mr. Gandhi's thinking is as critical as it is obvious: Pakistan's nuclear capability, combined with the massive supply of highly sophisticated conventional weapons, far in excess of that country's legitimate needs, would change the entire military balance in the sub-continent and imperil Indian security as well as peace in the region. From this the fourth element logically and inevitably follows. Since India cannot possibly allow its security to be compromised it will have to see what action it should take in the grim situation confronting it.

So far, so good. But what followed the Prime Minister's speech at the AICC has had the unfortunate effect of confusing the issue, ironically in the name of clarifying it. Several hours after Mr. Gandhi had spoken and his speech had been circulated round the globe by news agencies and broadcast by various radio networks, the defence minister, Mr. P. V. Narasimha Rao, denied that the Prime Minister had talked of reconsidering India's nuclear option. He blamed "over-enthusiastic newsmen" for attributing to the Prime Minister remarks that had never been made. And later Mr. Gandhi himself remonstrated with a news agency for "interpreting" his remarks rather than just reporting them. This is a highly untenable contention. For it is not only the right of journalists to interpret and put into perspective whatever they may have to report but also it is their duty to do so, especially when on issues of vital interest to the public, elliptical and opaque remarks are made by those in authority. The logic of Mr. Narasimha Rao's complaint is even more dubious. Mr. Gandhi did say that Pakistan is developing a nuclear weapon and this has "compelled us to look into various aspects of this question and to see what action we should take." How is it absurd to interpret these remarks to mean that this country may well be forced to have a fresh look at the nuclear option which it has never foreclosed?

Indeed, there can be no effective answer to a nuclear bomb except a nuclear bomb, though it is possible that despite his concern over Pakistan's nuclear pursuits, Mr. Gandhi does not want to rush to a decision or commit himself to a particular course of action. One reason for this may be his forthcoming visit to the U.S. where he is bound to come under pressure from President Reagan to forswear any Indian option. In any case, the very nature of the nuclear issue enjoins upon governments the need for ambiguity and this factor cannot but be operative in India now as well as in the future. But this ambiguity has to be provided for in official statements themselves.

INDIA

NUCLEAR POLICY ADVICE

New Delhi PATRIOT in English 3 Jun 85 p 3

[Text] The Committee for a Sane Nuclear Policy (COSNUP) has expressed deep concern over the reported "nuclear competition" between India and Pakistan and urged the Government to declare "unequivocally that it has no plans to go for nuclear weapons", reports PTI.

In a representation to Prime Minister Rajiv Gandhi, the COSNUP said along with Pakistan, India should seek ways to keep the whole South Asia and Indian Ocean a nuclear free zone.

Mrs Vijaya Lakshmi Pandit, Justice V R Krishna Iyer, Genral Jagjit Singh Aurora (Retd.), Prof Rajni Kothari, Mr V M Tarkunde, Mr Govinda Mukhoty, Mr Suresh Kalmadi, MP, were among the 24 COSNUP signatories of eminent jurists, civil right activists, journalists and social workers.

In order to strengthen the Indo-Pak cooperation with the broader framework of South Asian Regional Cooperation (SARC), the COSNUP suggested working out of a South Asian security and defence policy towards achieving wider political and economic coepration.

The COSNUP representation said the Indian sub-continent was facing a grave situation where two super-powers were confronting each other on "our borders".

Calling for restraining and caution, the representation said any attempt at this juncture to "stir up a parochial frenzy in support of nuclear bombs would benefit no one except authoritarian forces and military-industrial interests". It said the nuclear "hysteria" would take India further away from its cherished goal of building a just and equitable society.

Nuclear arms and militarism would also increase the country's dependence on foreign countries and threaten its political independence, the representation added.

CSO: 5150/0030

INDIA

AEC CHAIRMAN CLAIMS NO KNOWLEDGE OF PAKISTAN N-PLANT

Calcutta THE TELEGRAPH in English 4 Jun 85 p 4

[Text]

Indore, June 3 (PTI): The chairman of the Atomic Energy Commission, Dr Raja Ramanna, has said that he has "no knowledge of any nuclear plant in Pakistan."

He told newsmen here yesterday that he read reports in the Press about Pakistan having a nuclear plant but unless any nuclear explosion took place there, atomic or nuclear scientists in the country would not be able to confirm it. Dr Ramanna said India imported enriched uranium for power generation.

Dr Ramanna said sufficient uranium was available for the Tarapur atomic power plant. The plant was running efficiently and providing power to Maharashtra and Gujarat, he added.

He said all precautions were being taken at the plant and there were no reports of health hazards to plant personnel.

Dr Ramanna said all the five atomic power plants in the country were working smoothly and enriched uranium was available for them. At present, five per cent power was generated through these plants but soon it would be raised to 10 per cent.

Dr Ramanna said India had reached the take-off stage in advanced technology. The country, he said, did not like to import advanced technology in certain fields which would be used for the welfare of mankind.

Dr Ramanna said construction work was progressing at the Centre for Advanced Technology (CAT) as scheduled and was hopeful that the first phase would be completed by the end of 1987.

24 July 1985

INDIA

RADIOACTIVE SANDS IN ORISSA TO BE MINED

Calcutta THE TELEGRAPH in English 4 Jun 85 p 9

[Text]

Chatrapur (Orissa), June 3: (UNI): A project to mine one of the world's biggest known deposits of radioactive sands is coming up over 30 sq km of Orissa's foreshore territory between Gopalpur and Ganjam.

According to officials of the public sector Indian Rare Earths Limited, an establishment of the department of atomic energy, the Rs 110-crore project is expected to be commissioned during 1985-86.

Slippage in delivery schedules by contractors has, however, affected the timely completion of the project, known as the Orissa Sands Complex (Oscom).

The radioactive sands of the area have 21 per cent concentration of rare earths. The minerals are used in various nuclear reactors, manufacture of paints and electrodes and refractories and fetch a good price in the global market.

According to an earlier schedule, the mining unit was to go into production before the end of 1983. The sand separation plant was to be ready by mid-1984 and the rare earth chemical plant by 1985.

Project officials said, steps had been taken to speed up erection of plant and machinery, which had been plagued by delays by contractors.

The dredge and wet concentrator has already been commissioned and trial runs are in progress in the dry mill. "The company expects to commission the entire Oscom project during 1985-86 and may export small quantities of the minerals from this operation," a project official said.

Till March 1984, the company had spent Rs 82.59 crores on the

project, which is designed to produce 220,000 tonnes of lime-nite, 30,000 tonnes of sillimanite, 10,000 tonnes of rutile, 4000 tonnes of monozite and 2000 tonnes of zircon annually.

The project was conceived of as early as in 1968 with an estimated cost of Rs 40 crores but was abandoned in the wake of a global slump in the rare earth minerals market.

The Indian market was also not fully developed to utilise the rare earth products, which were then limited in use and higher in cost.

The inordinate delays, however, escalated the cost of the project by nearly three times while demand for rare earths in the global market also shot up. The total revised project cost is Rs 110.76 crores.

The project envisages to mine more than 2.88 million tonnes of raw sand by a new Australian technique called "dredge mining." "Concentrator units," as the mining gadgets are called, will be mounted on pontoons and float on a pond along the six km stretch of radio active sand dunes.

The minerals mined by the project are expected to fetch more than Rs 25 crores in foreign exchange annually.

A few ancillary units are being planned near the project to utilise its by-products. A sponge iron plant is proposed to use the iron oxide by-product. A chemicals plant is expected to be set up to produce rare earth compounds like trisodium phosphate, thorium hydroxide and thorium nitrate from a mineral called monozite. A plant to manufacture silicon is also on the anvil.

PAKISTAN

INDIA'S 'ALLEGATIONS' ON THE BOMB ANSWERED

GF231700 Rawalpindi PAKISTAN TIMES in English 16 Jun 85 p 6

[Editorial: "Who Is Making the Bomb?"]

[Text] The propaganda blitz about Pakistan's nuclear programme that has accompanied Indian Prime Minister Rajiv Gandhi's visit to the United States has been exposed for what it is by two items that have appeared in (THE WASHINGTON TIMES) and (THE WASHINGTON POST). While the former has carried a column on the issue by its foreign editor, the latter has published a letter from the Pakistan Embassy's information minister explaining Pakistan's nuclear policy.

The facts mentioned therein expose India's and Mr Gandhi's concern as self-serving, motivated and phony. They show that it is not Pakistan but India whose designs are suspect in the nuclear field. Indian publicists do not tire of asserting that India's nuclear plans are peaceful, while Pakistan is the bad guy next door making a bomb to jeopardize India's security.

If this were really so, India should have jumped at the offer made by Pakistan to declare South Asia a nuclear weapons free zone. But it has persistently opposed the idea, showing where it really stands. Pakistan has gone a step ahead and suggested mutual acceptance of international inspection of their nuclear facilities or, as an alternative, reciprocal inspection of each other's installations.

By making this proposal Pakistan has showed that it has nothing to hide, and also offered an opportunity to India to clear or confirm its much-publicized doubts about Pakistan's nuclear programme. But, India has not been forthcoming on this too.

Islamabad has also suggested that Pakistan and India jointly sign the Nuclear Non-Proliferation Treaty together with other countries of South Asia and renounce the manufacture of acquisition of nuclear weapons.

But India, which by its own admission is greatly worried about Pakistan's supposedly offensive nuclear plan, has not cared to respond. This is

incomprehensible, to say the least. India's propaganda machinery has been working overtime to convince world public opinion that Pakistan is going ahead with its plan to produce a bomb and thus start a nuclear arms race in the sub-continent.

But when Pakistan proposes concrete steps like denuclearisation of South Asia and joint signing of NPT and renunciation of nuclear weapons, it, surprisingly enough, makes no response and, in the case of the nuclear weapons free zone proposal, has an unenviable record of actively opposing it. What does all this prove?

Surely, Pakistan, if it were making a bomb, could not have made all the proposals that it has done to banish the spectre of a nuclear holocaust from the region. In fact, the time has come when the world should take a closer look at the obverse side of the Indian propaganda against Pakistan. Is India raising all this din to justify its making of a bomb secretly and to present the world with a fait accompli one fine morning?

All facts and evidence available so far point not to a Pakistani but to an Indian bomb in the making. The noise about the phantom Pakistani bomb is only a diversionary tactic.

CSO: 5100/4766

INTER-AFRICAN AFFAIRS

SCIENTISTS SEEK SECURITY GUARANTEE FOR NUCLEAR FACILITIES

EA042044 Dakar PANA in English 1740 GMT 4 Jul 85

[Text] Addis Ababa, 4 July (PANA)--African science experts have strongly urged that an international agreement be drawn up at the earliest opportunity to prevent any attack on peaceful nuclear installations and facilities. The call was made today in Addis Ababa at the end of a four-day expert group meeting on the present situation and future perspectives for peaceful uses of nuclear energy, organized by the economic commission for Africa (ECA).

The experts noted that lack of any effective international action guaranteeing the security of peaceful nuclear installations and facilities seriously inhibits the nuclear energy programs in the region. The meeting made reference to the Israeli attack on a research reactor in Iraq in 1981 and to the wide concern over South African nuclear activities and their negative impact on the implementation of the declaration on the denuclearization of Africa adopted by the OAU summit in 1963 and subsequently endorsed by the United National General Assembly.

The meeting agreed that any country that carries out a military attack on another country's peaceful installations should be denied access to nuclear materials, equipment and fuel cycle service by all suppliers.

The meeting also recommended the establishment of an appropriate international mechanism to coordinate international cooperation in the peaceful uses of nuclear energy for economic development. It stressed that international mechanisms were necessary for the free flow and exchange of scientific and technical information at regional and international levels.

On measures to overcome constraints encountered in the introduction and development of peaceful uses of nuclear energy, the meeting urged the world bank and other financial institutions to provide long term loans on easy terms for nuclear power plants. The meeting also urged

international organizations to assist African countries in setting up industrial joint ventures for nuclear power generation to reduce the import content and the outflow of foreign exchange.

Currently, no nuclear power plants exist in independent Africa and very few countries have made commitments to build nuclear power reactors. Egypt, Libya and Morocco are the three countries which have made commitments to build nuclear power plants, while Algeria, Tunisia, Gabon and Nigeria are considering doing so.

The meeting urged additional grants on easy terms to be organized by the United Nations system for research facilities relating to other peaceful applications of nuclear power techniques in the region. To this end the experts urged the ECA in collaboration with other international organizations to play an active role in mobilizing financial and technical resources.

The regional expert meeting was held especially to prepare for the United Nations conference for the promotion of international cooperation in the uses of nuclear energy to be held in Geneva, November next year.

CSO: 5100/34

SOUTH AFRICA

BRIEFS

KOEBERG REACTOR BEGINS OPERATION--The second reactor at Koeberg power station began operating early this morning, following the issue of a licence by the Atomic Energy Corporation. Tests are now being carried out on the reactor before the unit starts generating power. A spokesman for Escom [Electricity Supply Commission] says the reactor will probably be operating at full capacity by October. Reactor No 1 was brought back into operation last month after it had been closed down due to the presence of iron particles in the system. [Text] [Johannesburg Domestic Service in Afrikaans 0830 GMT 7 Jul 85]

CSO: 5100/35

AUSTRIA

IAEA'S BLIX ON NUCLEAR SAFEGUARDS, INSPECTIONS

Rotterdam NRC HANDELSBLAD in Dutch 28 May 85 p 9

[Report on interview with IAEA (International Atomic Energy Agency) Director Blix by An Salomonson: "The Netherlands Is Not Giving Anything Extra for Technical Aid; In Third World There Is Great Disappointment About Failing Arms Control"; date and place not specified]

[Text] The Swede Hans Blix (57) has been general director of the UN Atomic Agency (International Atomic Energy Agency) since 1 January 1982. The developing countries agreed to his appointment at the time on the condition that more representatives from the Third World would be appointed to high positions in the IAEA, and that after his first period of service of 4 years this function would go to a developing country.

Now that that moment has almost arrived, it appears there are no other candidates, so that the reappointment of Blix is almost certain. And anyway, there is hardly any criticism of his policy, even from the Third World. On the contrary, he is thought to be a good manager, with excellent diplomatic characteristics. Indeed, under his leadership a number of important beneficial developments were initiated:

--China has become a member of the IAEA and will shortly also be seated on the Board of Directors. With that, all nuclear arms states and all states with nuclear energy installations will have joined the Atomic Agency.

--The Soviet Union will, as the fourth nuclear state, allow inspection of some of its nuclear installations.

--The international security system for nuclear energy and IAEA's service in it have been expanded.

--Technical aid to the developing countries has been increased by 18 percent and is functioning satisfactorily.

--For several years Blix has applied zero-growth to his budget and requested a lower increase in contributions from the member states than inflation would justify. In spite of that the number of activities has increased (such as, for example, with a translation and interpretation service in Arabic).

--The Atomic Agency has survived, unharmed, the political turbulence in 1982 and 1983 when the United States suspended its membership after the annual meeting had refused to accept Israel's credentials. As a reaction, there is even a noticeable tendency toward refraining from further politicizing and strengthening the real role of the IAEA, namely the furnishing of technical aid to the Third World.

Although the ultracentrifuge plant in Almelo (where uranium is enriched in order to be used as fuel in nuclear plants) has been under inspection by the UN atomic agency IAEA for a long time already, the safeguard system was completed only recently. Due to a new agreement, the IAEA inspectors will from now on also have access to the hall with the centrifuges. An interesting detail of the agreement is that inspections may also take place unannounced. General Director Blix of the Atomic Agency recently paid a visit to the UCN [Ultracentrifuge Netherlands] plant, which was the occasion for the following interview.

[Question] Why did it take so many years for this agreement to come about?

[Answer] Agreements on such enormous quantities of sensitive material (i.e. also usable for non-peaceful objectives--ed) are among the most difficult aspects of international control. I have never doubted the possibility of such an agreement, but it takes a long time. The conditions for accurate verification must be worked out in great detail, but at the same time guarantees must be set up for the inspectors not to gain access to the production techniques (in order to prevent industrial espionage--ed).

[Question] The Soviet Union now has also agreed to inspection of some of its nuclear installations. When will that start?

[Answer] The basic agreement has already been signed and ratified. Now the discussion only concentrates on which plants should be considered for inspection. That should not be a problem, though. I trust that the second accord will be complete before summer.

[Question] Although everyone agrees that expansion of the safeguards is a positive development, there is still considerable criticism being voiced. Is there still a shortage of personnel and technical means?

[Answer] That criticism is very often due to unrealistic expectations. International control can never keep a country from stealing fissionable material. The Atomic Agency is not a nuclear policeman but a tool for verification. The deterring element is not in the safeguards themselves, but in the reactions of other states to a potential report of the Atomic Agency in which such a theft would be exposed.

Moreover, safeguards can only explain the situation here and now, but not the potential plans of a government. We cannot determine if a state might be planning to make an end to the inspection. However, the inspection is able to register the first signs of theft of fissionable material and report that to the governments. The latter has never happened yet, however. And that is not

surprising. Governments don't commit themselves to accepting inspection if they are planning to steal fissionable material but, on the contrary, they accept it to demonstrate with maximum credibility that they have no bad intentions.

As to the technical means, we have gradually been able to improve our operating techniques. More funds and better trained personnel have become available, even though that is not enough yet. In the past we used ordinary cameras; now we use TV cameras. In the past we sealed key points in the installations in the classical manner; now that is done electronically. In short, our tools have become more and more advanced. During the coming period there is a good opportunity to streamline our service further, since at this moment not many new nuclear installations are being added.

There are people who would prefer to use the available funds for technical aid to the developing countries rather than for inspection. I want both. The developing countries justifiably count on technical aid, but it is in everyone's interest, also in theirs, that the world have faith in the safeguards. Thirty million dollars per year is a modest sum to keep this system going. After all, it is the first experiment of mankind with international verification. I don't care to spend more tax money than necessary, but I refuse to consider this amount exorbitant.

[Question] China also has joined the IAEA now. Is there reason to believe that it, too, will sign the Non-proliferation Treaty in the foreseeable future?

[Answer] China has considerable criticism of the Non-proliferation Treaty; in that respect it takes the same view as many developing countries (who find the treaty discriminatory--ed.). There are no indications of Peking's planning to join the Non-proliferation Treaty. It is certain, however, that China will demand international control over its future nuclear exports and also that it will accept that control over nuclear imports from Brazil and Argentina.

The IAEA is in the process of informing China on the manner in which those safeguards are organized and which methods we apply. But even though China doesn't want to join the non-proliferation treaty, it has officially stated that it sees proliferation as a great danger and that it will act accordingly.

[Question] In September the third evaluation conference of the Non-proliferation Treaty will be held. Do you expect as dramatic a confrontation between some developing countries and the industrial states as 5 years ago when the evaluation conference had to be terminated without a communique?

[Answer] The problems are great, indeed. There is deep disappointment, even resentment, that the nuclear arms states have not succeeded in concluding a treaty on arms control or on a total prohibition of nuclear tests (thus including underground tests, since those above ground, under water and in space are already prohibited--ed). Moreover, there is criticism that the Third World has not received sufficient technical aid in the form of transfer of nuclear technology.

With regard to the first point, the IAEA doesn't play any role in disarmament. And as to the second point, we are the most important mechanism for the transfer of technology. Let us hope that the demand of the developing countries will cause additional funds to be made available.

[Question] To return once more to the evaluation conference: in the preamble of the Non-proliferation Treaty the need for a total prohibition on nuclear tests is emphasized. During your press conference in the Netherlands you said that no measure would better be able to let the evaluation conference succeed than reaching an agreement on such an interdiction. Three years ago the United States did, however, unilaterally break off the negotiations on that. Isn't that a violation of the Non-proliferation Treaty and an additional handicap for the coming evaluation conference?

[Answer] I won't comment on that last question. However, I can say in general that the failure to reach agreement promotes criticism and frustration. And the total interdiction on nuclear tests happens to be the first item on the list of desires. I should point out to you though that according to the Non-proliferation Treaty the nuclear arms states commit themselves only to negotiate on the matter.

[Question] And that is precisely what the United States no longer wants to do. For that matter, you just said that you hoped for more money for technical aid. Isn't \$26 million already a nice amount in these bad times?

[Answer] In the Non-proliferation Treaty the developing countries promise to abandon the manufacture of nuclear arms, and in return the industrial states promise to transfer technology. Much is being done with that \$26 million, in particular in the area of agriculture, medicine and industrial application. The Third World nevertheless is disappointed that it doesn't receive more, and additional technical aid might stifle that criticism.

On the other hand, the developing countries have signed the Non-proliferation Treaty because it is also to their advantage, even though there is no direct quid pro quo (what is meant is that there is no arms control accord among the nuclear arms states--ed). As long as they see the Non-proliferation Treaty as an increase of their security, they will stay in it. The spreading of nuclear arms over a continually greater number of countries would form a great threat to them too, after all.

A number of industrial states meanwhile have promised to increase their contribution for technical aid. Unfortunately your country has not done that thus far. The Netherlands gives just its regular contribution to the fund but not one cent more. In this respect you clearly are more reserved than countries such as the United States, the Federal Republic of Germany, the United Kingdom and Sweden.

8700

CSO: 5100/2560

SWITZERLAND

EXPORT OF NUCLEAR TECHNOLOGY TO BE CONTROLLED

Geneva JOURNAL DE GENEVE in French 23 May 85 p 13

[Article by Daniel-S. Mievil: "Nuclear Technology: Bern Wants to Control Exports"]

[Text] Federal Council meeting. The creation of legal grounds should fill a gap in a very sensitive area where international controversies are particularly sharp.

The Federal Council took an important step yesterday in the area of nuclear nonproliferation when it published a statement proposing specifically the establishment of legal grounds for the control of exports of nuclear technology as part of a partial revision of the law on atomic energy. In other words, it would be a matter of controlling not only exports of nuclear materiel but also those of technology. This statement should fill a gap in an especially sensitive area where international controversies are particularly sharp. Switzerland has run into conflict on this subject notably with the United States, which keeps a watchful eye on nonproliferation.

In 1977, our country signed the treaty concerning nonproliferation and nuclear arms, and since 1978 its legislation has subjected the export of nuclear materiel to the terms of the permit. In 1977, it also joined the London Club which includes the chief nuclear supplying countries, and which endeavors to enforce the existing regulations by adopting supplementary conditions affecting importing governments. Even though these conditions are nonbinding, they are nevertheless what is at stake in a political battle that the United States, above all, has been carrying on for several years in an attempt to tighten up the export regulations. In particular, they subject exports of nuclear technology to obligatory inspection.

By technology is meant the important technical data for the planning, construction, operation and upkeep of installations for enrichment, recycling, and the production of heavy water. The processes regarded as sensitive targeted by these provisions

include uranium enrichment, and the recycling of nuclear fuel which could lead to the mastery of nuclear energy for military use.

Assurances

The member states of the London Club undertook not to export nuclear materiel or technology without first obtaining from the buyer state a series of guarantees according to which the latter would promise not to use this materiel or technology for the production of nuclear explosives, to accept inspection by the International Atomic Energy Commission, and to obtain the consent of the exporting state before reexporting. Switzerland had to state its reservations when it joined the London Club, since the absence of legal grounds prevented it from applying the Club's directives concerning the export of technology.

This did not hinder it in 1979, when it sold a heavy water plant to Argentina, from working out a bilateral agreement with this country, including the same restraints as those laid down by the London Club, introduced by diplomatic persuasion alone. The adoption of legal grounds will clarify the situation in such a case. It will also enable Switzerland to improve its position in international negotiations by adding to its credibility.

The revision proposed by the Federal Council, moreover, introduces into the law the concept of the nonproliferation of nuclear weapons--which is thereby reaffirmed--as the criterion on which export authorization depends. Until now, the law only mentioned the protection of persons, the goods of others, and important rights, as well as the protection of the external security of Switzerland.

Finally, this revision proposes transferring to the Federal Council the authority to conclude restricted bilateral agreements, a measure intended to provide more flexibility in trade in nuclear equipment with other states.

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